

MATZ/ARONSON

THE COMPLETE CELLIST

BOOK ONE

a concise two-volume edition of the
internationally famous method by

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FOREWORD

When cello teachers get together at conventions, or privately, or at master-class sessions, the question most prominent in conversation is "What teaching material are you using?" - or, "Is there something new being published beside the so-called 'new editions' of the twenty-five-year-old methods?"

The fact is that nothing new has been brought out, and progressive exercises in authoritative editions are almost nonexistent. Most methods give slight importance to the fundamentals and often jump the student to the fourth position with hardly any preparatory material. In spite of this, the popularity of the cello has grown steadily.

A year or so ago someone brought me a book of etudes and scales by Rudolf Matz. After looking it over carefully, I became more and more interested both in what this wonderful man had to say and in what his method meant for a new generation of cello students. I asked questions about the origin of the man and his whereabouts for I felt I must see him, talk with him, and examine the additional thirty-one volumes listed on the back page of the book I had. Eventually I discovered that Rudolf Matz was a professor of cello at the Academy of Music in Zagreb, Yugoslavia. It did not take me long to fly there - we met and became the best of friends.

Professor Matz's lovely personality, his dedication to music and to his instrument, and his kindness and simplicity made me realize that here was not only a wonderful musician and pedagogue but a great human being as well. We talked for days about cello methods and the present-day problems of technique, and we exchanged thoughts and ideas enough to fill another thirty-two volumes! I was determined to make his works known in the United States, and we finally agreed that I should condense his great treatise into two volumes which were to progress step-by-step from open-string playing to the level of virtuosity. This I have tried to do.

It is my earnest hope that teachers and students alike will benefit from the work. And now when teachers gather to discuss the problems of teaching material, the answer can be in the affirmative: something new has been published!

I dedicate this condensation to my beloved teacher and friend, Gregor Piatigorsky, to whom I am eternally indebted for his influence and for the guidance and inspiration which he has given me over many years.

Lev Aronson

PREFACE

There has long been a need for a study of cello technique that is both comprehensive and detailed. Professor Matz, in his thirty-two-volume original, has covered every aspect of the fundamentals of cello technique. The chapters for beginners, the etudes based on those chapters, the explanation of the sixteen basic finger-changing patterns, the preparatory exercises for scales, the scales themselves, the thumb position, the right-hand exercises - all should be of great benefit to cellists.

Great credit is due to Mr. Lev Aronson, not only for extracting a practical digest from these volumes but also for amplifying Professor Matz's analysis of each successive problem through detailed explanations and much new material of his own devising.

Mr. Aronson has divided this digest into seven progressive parts, placing each chapter into its proper niche in the logical continuity of development from open strings to virtuoso technique. His translations are clear and concise and the text has gained much through his own erudition and experience.

This book should be welcomed by every student and teacher. I am certain it will take its place among the finest in its field.



Gregor Piatigorsky

INTRODUCTION

A. Glossary of Terms and Symbols Used in this Book

Basic String and Finger Designations:

I = first string (*tuned to A*)
II = second string (*tuned to D*)
III = third string (*tuned to G*)
IV = fourth string (*tuned to C*)

0 = open string
1 = first finger
2 = second finger
3 = third finger
4 = fourth finger
φ = thumb


Ⓘ or Ⓜ etc. = To be played in the designated position until the horizontal line stops.


Bowing Indications:

arco = To be played with the bow.

▮ = down bow (*in which the bow arm is moved away from the body horizontally towards the right*).

∨ = up bow (*in which the bow arm is moved towards and across the body horizontally towards the left*).

·· = To be practiced with up and down bowings.

 = To be successively practiced on all four strings.

// = To break or interrupt the tone for an instant.

s = To separate two or more notes without interruption of the tone. (This is an integral part of phrasing.)




Plucking and "Percussion" Indications:

pizz. = The pizzicato. To pluck a string with the fingers of the right hand.




pizz.+ or +pizz. = To pluck a string with a finger of the left hand. (This technique is useful for percussive attacks in slow tempi.)

p.c. or p. = When placed over or under a note, this means to produce that tone by percussion - that is, to use a specific finger of the left hand as a piston, dropping it perpendicularly and with controlled force, yet pliantly, upon a specified string. (The purpose of this procedure is to develop muscular strength, finger alertness and clarity of response in running passages where the fingers will have to fall in an absolutely metronomical rhythm. In playing cantilena passages, the approach is different: one finger takes over from the previous one in a legato motion.)


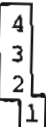
Parts of the Bow:

- or  = To be played at the frog.
- or  = To be played with the middle of the bow.
- or  = To be played with the tip of the bow.
- $\frac{1}{1}$ = To be played with the whole bow.
- $\frac{1}{2}$ = To be played with one-half of the bow.
- $\frac{1}{4}$ = To be played with one-quarter of the bow.
- $\frac{1}{8}$ = To be played with one-eighth of the bow.

Some Combinations of the Previous Sign and Number Symbols:

- $\frac{1}{2}$  = To be played with the lower half of the bow.
- $\frac{1}{4}$  = To be played with the fourth of the bow about its middle.
- $\frac{1}{8}$  = To be played with the eighth of the bow at the tip.
- * = The asterisk after a fraction - such as: $\frac{1}{4}$ * - indicates that the exercise to which these symbols refer is to be practiced three times: once each with that fraction of the bow nearest the frog, about the middle, and at the tip.

Fingering and String Symbols:

-  = To place both specified fingers simultaneously upon a string. (This procedure can be used to anticipate the production of percussion tones by other fingers.)
-  = The finger specified in that portion of the box offset to the right (here, "1") joins the other specified fingers (here, "2, 3, 4") on the string as soon as possible.

II

3
2
1

 = The lowest finger in the box is placed on the string specified by the symbol to its left outside the box; similarly, the other fingers are placed simultaneously upon the string specified to their left. A string symbol controls all specified fingers to its right and in downward listing until the next string symbol appears below it.

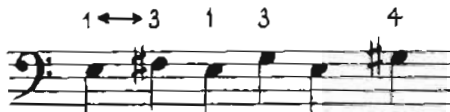
1

 → = The finger specified in the box at the beginning of the horizontal line remains on a specified string for the duration of that line and until the arrowhead terminates it.

2

 = To raise the specified finger and drop it obliquely but with a raised attacking motion instead of with a piston-like directness or with a glissando movement on an adjacent string from a preceding higher or lower half-tone. This action creates a whole-tone "open stretch" between the specified finger and a previous one. (This action is particularly useful in changes from closed to open positions where the "feel" for accurate stretch and position changes is first developed.)

1 ↔ 2 = Indicates that a whole-tone "open stretch" exists between any two fingers of the left hand:



1 / 2 or 1 \ 2 = A diagonal line between two finger numbers or two notes denotes a glissando running in the direction of that line. This technique is generally used in the higher positions because of the smaller distances between any two tones, where it contributes to the legato feeling between notes. However, it can also be used in the lower positions to facilitate movement across strings, in four-note patterns, or in octaves; in the latter, the thumb position on the fingerboard is also used.

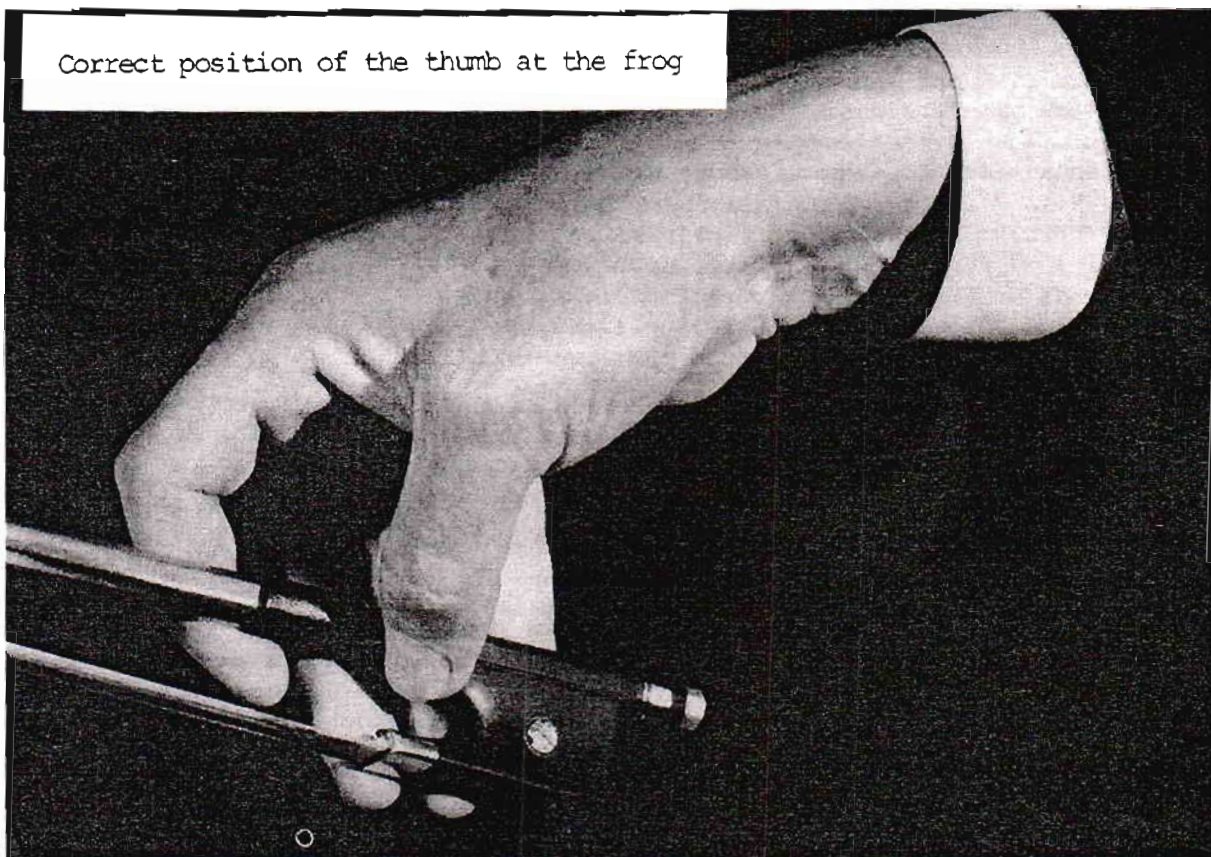
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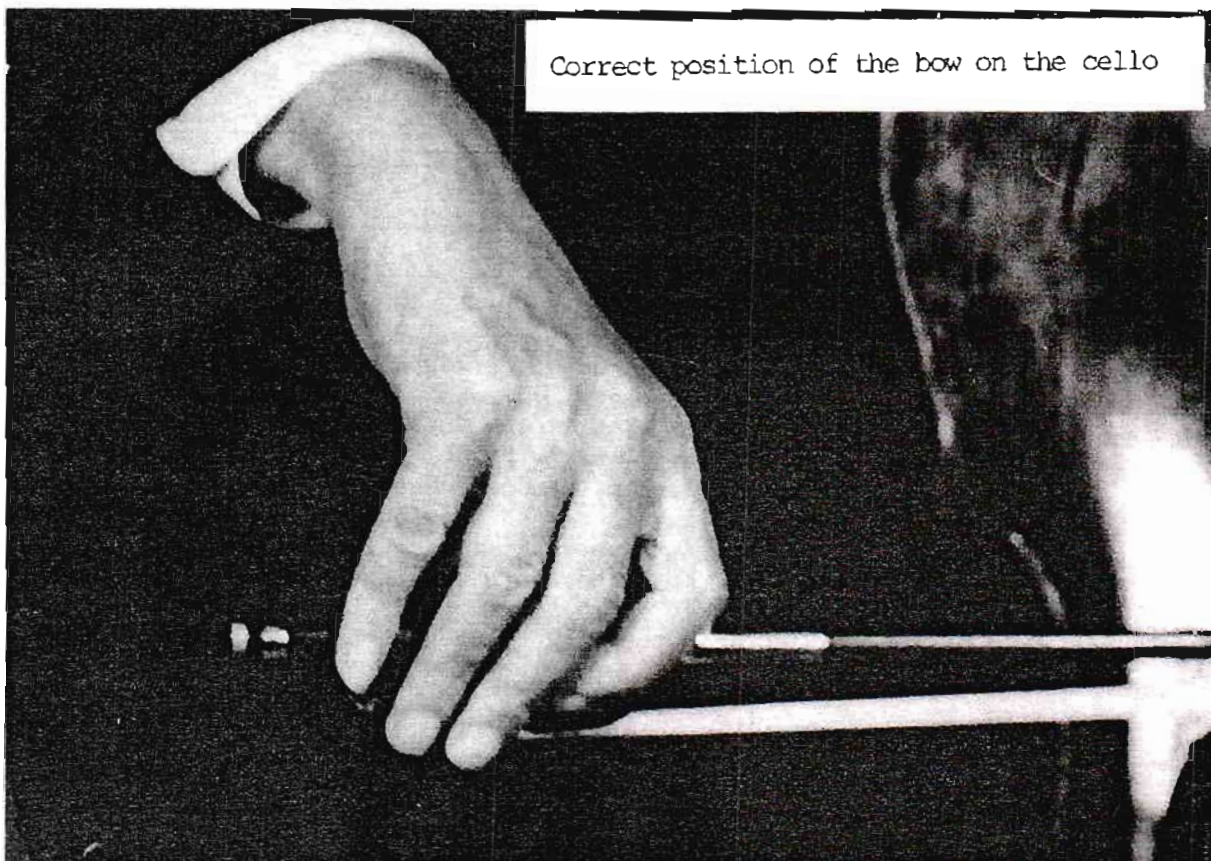
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 = This indicates that the thumb is to maintain its position upon a string for the duration of the space between these symbols.

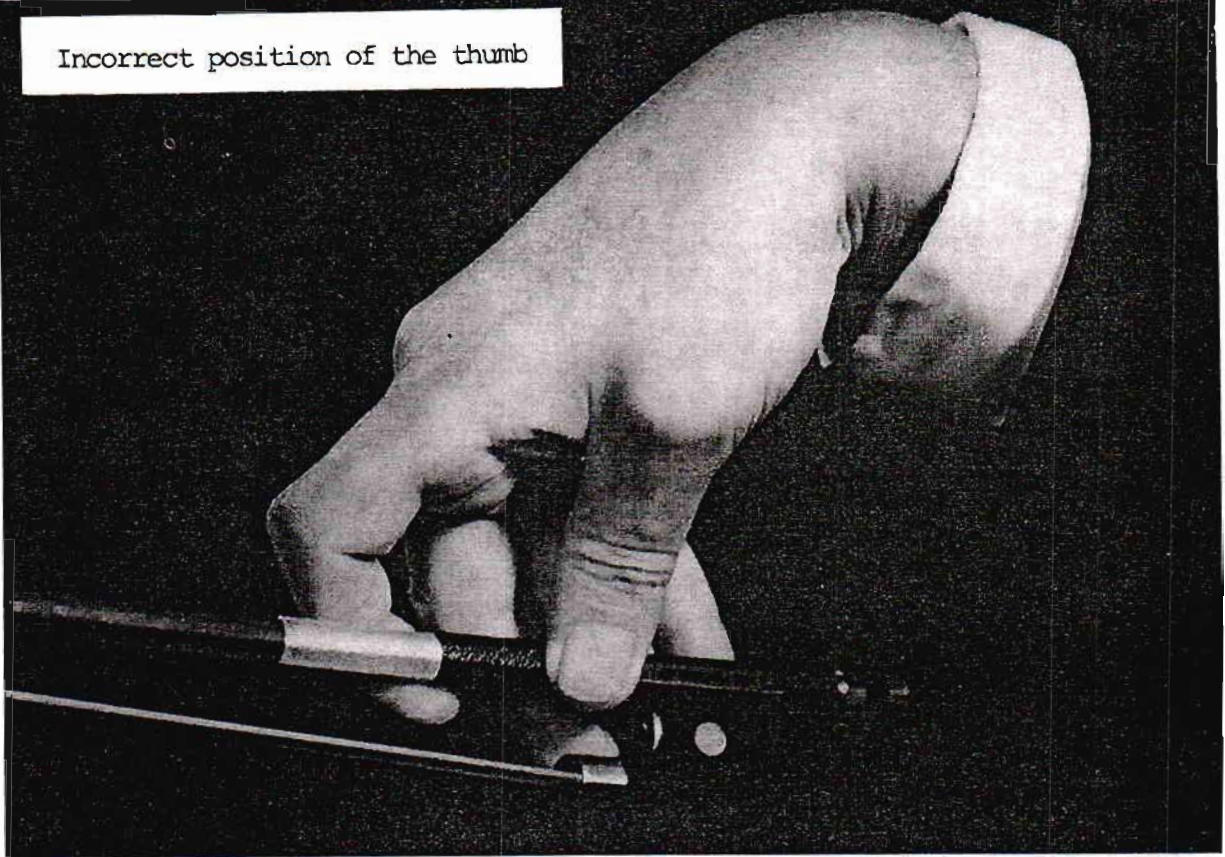
Correct position of the thumb at the frog



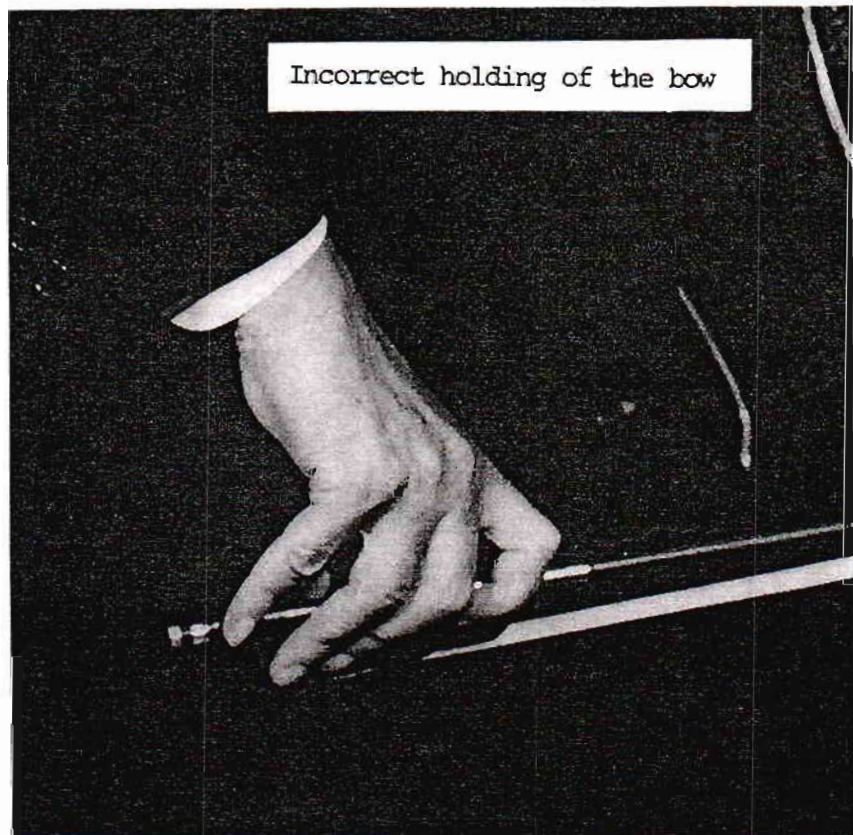
Correct position of the bow on the cello

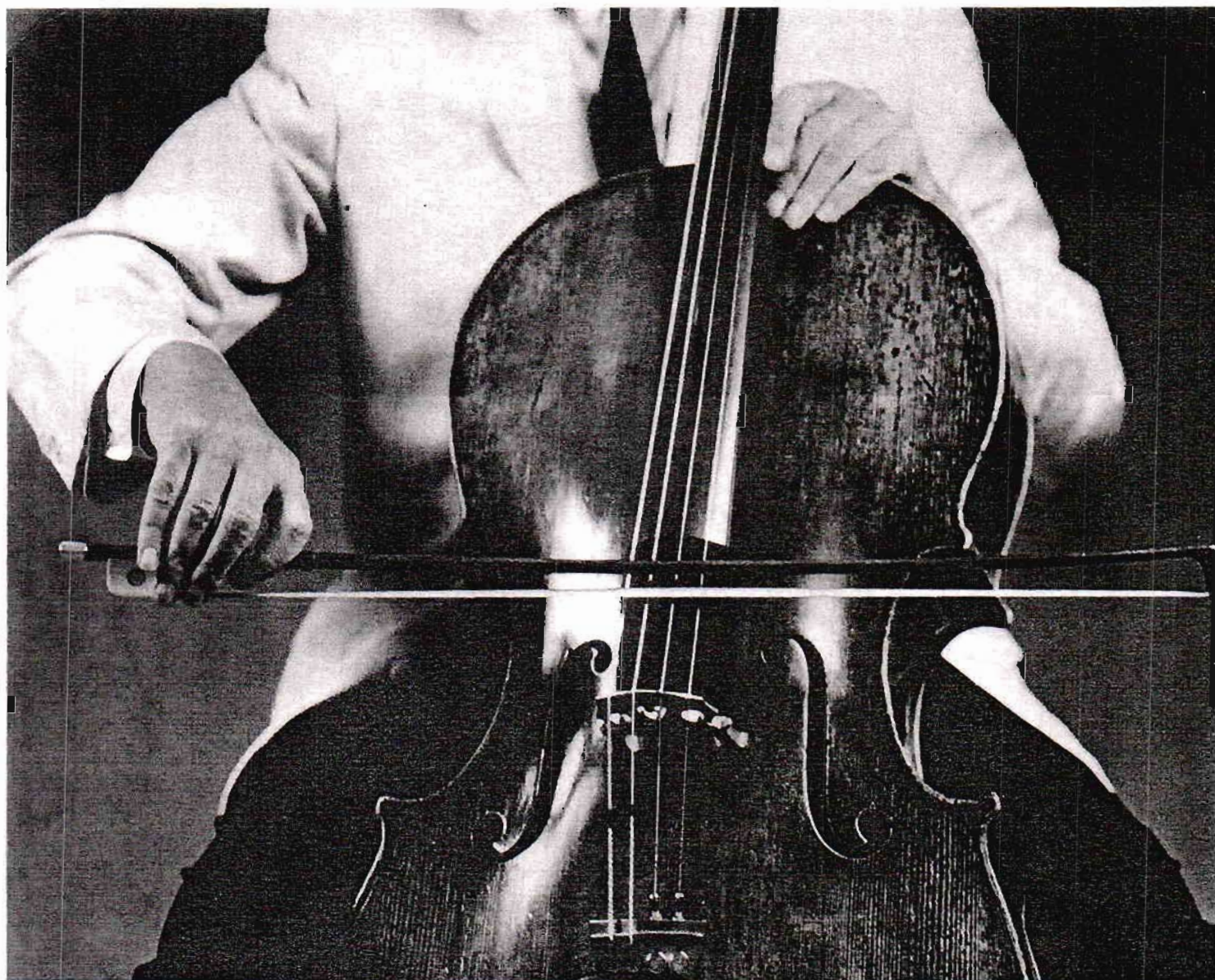


Incorrect position of the thumb



Incorrect holding of the bow



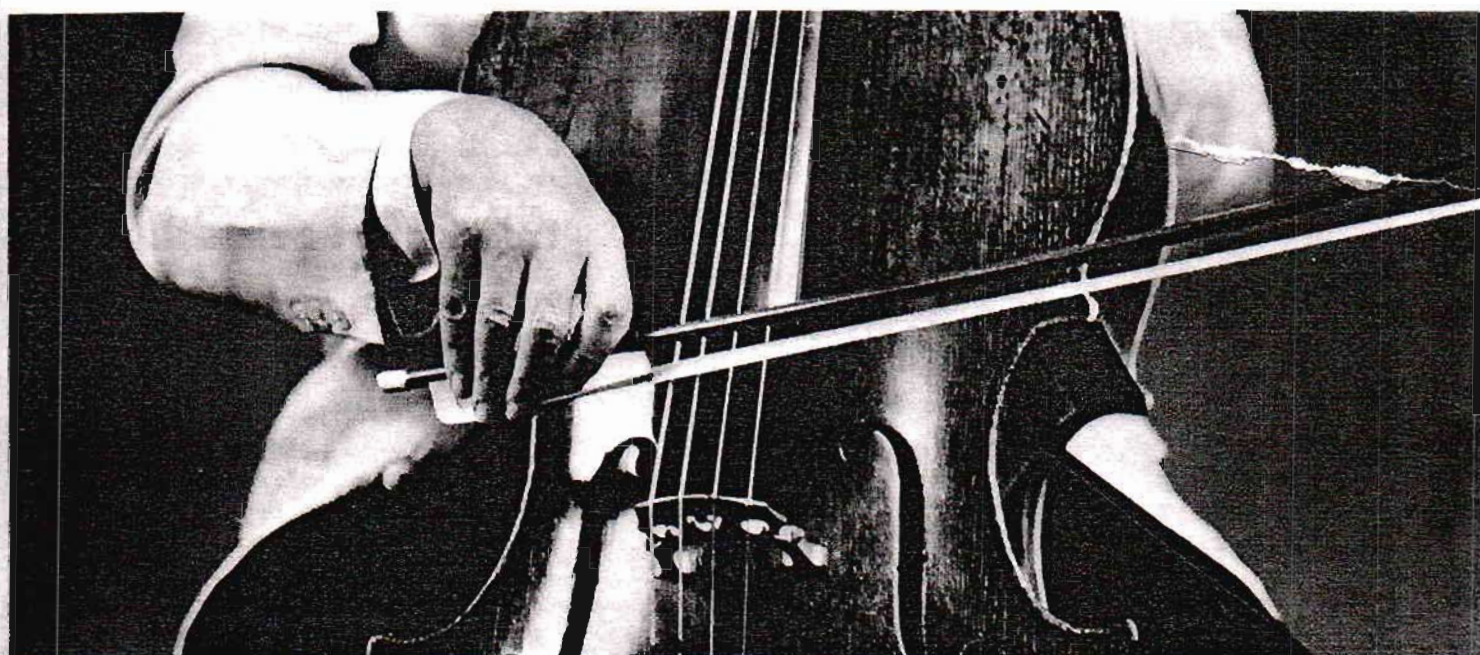


Position of the hand with the bow at midpoint

Position of the bow at the point



Position at the frog



B. Correct Playing Position

Something should be said at this point about the correct playing position of the cello, the correct position of the shoulder, the arm, the hand and the fingers, the grasp of the bow and the balance of the bow, as well as the position of the left hand on the cello neck.

Positioning the Cello:

The basic position of the cello should be as it was before the end pin was invented. The natural way to position the cello is to take the cello between the knees and slide the end pin down until it touches the floor. The correct position of the instrument will determine the correct position of both hands and arms, which will be like the two flexible wings of a bird. Hands, arms and shoulders should contain a subtle, though not sudden or broken, curve throughout. The direction of the bow will then determine the lie of the hand.

Grasping the Bow:

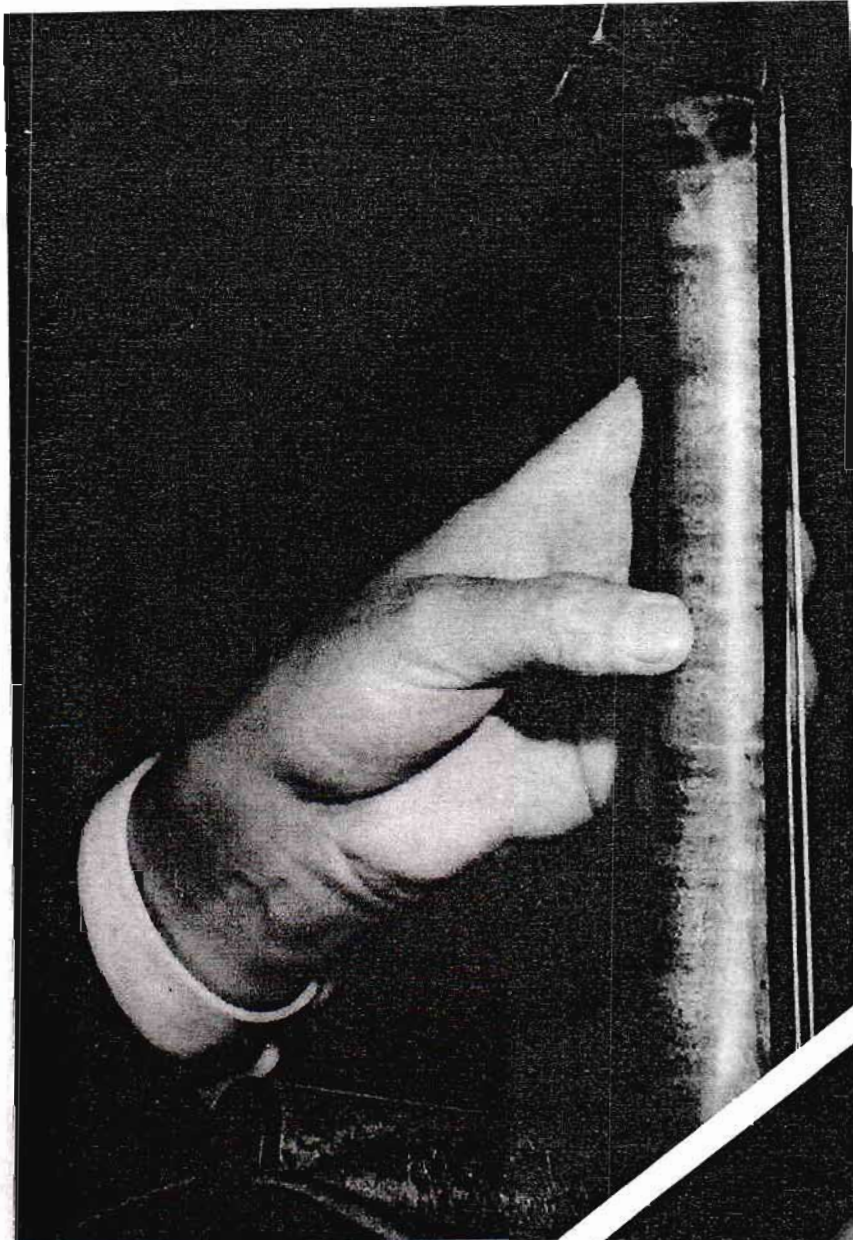
The correct grasp of the bow can be obtained in this manner. Palm down, oppose the thumb and middle finger of the right hand so that they just touch. These fingers can now be worked in and out at the first joint so that their joined tips seem like the head of a striking snake. With the bow tip towards the student's left, the frog of the bow can now be introduced between them in such a manner that the frog is held at the little hill on its curve with the right side of the thumb between the nail and the flesh. It will be found that the bow can be held perfectly balanced in this manner by just these two fingers.

Now, the third and fourth fingers should be placed next to the middle one on the frog. The hand should then be revolved about the wrist so that the bow tip makes a half circle from the left to the right side of the student and the palm of the hand is facing upward. To insure the bow from falling, the first finger is then placed on the frog "lightly apart" from the others and subtly arched. The fingers at this point will be seen to be in "respectful relation" to each other - that is, with equal grasping weight.

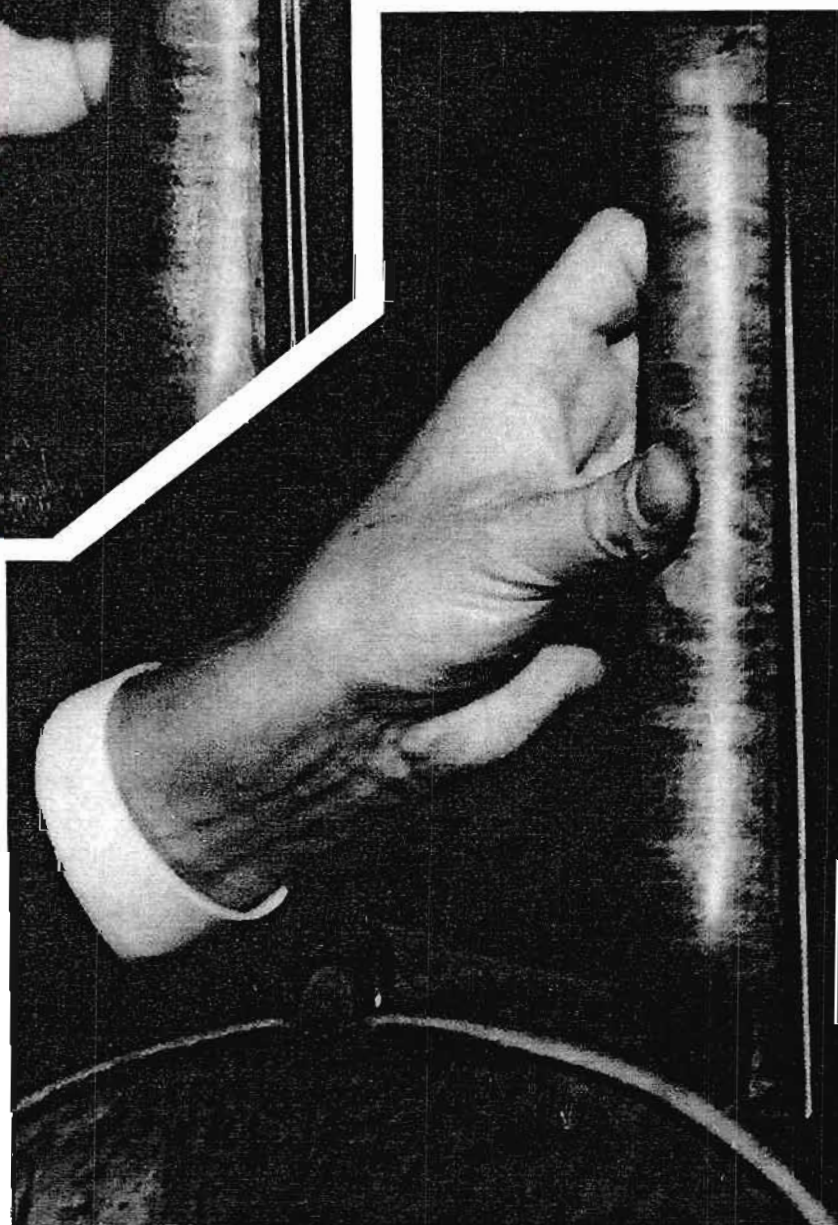
The hand is then revolved back to its original downward facing position, the wrist is raised a bit, the forearm is turned to the left and the weight of the bow is applied against the string. As the student guides the bow by alternately pushing and pulling it with the finger tips, it will be seen that the position of the thumb gradually changes. In a down bow, the thumb becomes almost straight with its ball opposed to that of the middle finger. In an up bow, the thumb gradually approaches its starting position where its tip again comes into opposition to that of the middle finger.

The purpose of the fingers on the frog is not only to hold the bow. Since only the finger tips touch the frog, the fingers remain free enough to perform another important duty: they control the bow. To repeat, in down bow, the finger tips pull the bow; in up bow, they push. Thus, the finger tips "play" the bow, as one would "play" a fishing rod, so that the bow becomes a "live" instrument in the student's hand. He controls it, directs it, manipulates it, channels its movement and works in tandem with it. Thus, one could say that there are two instruments involved in playing the cello: the cello and the bow.

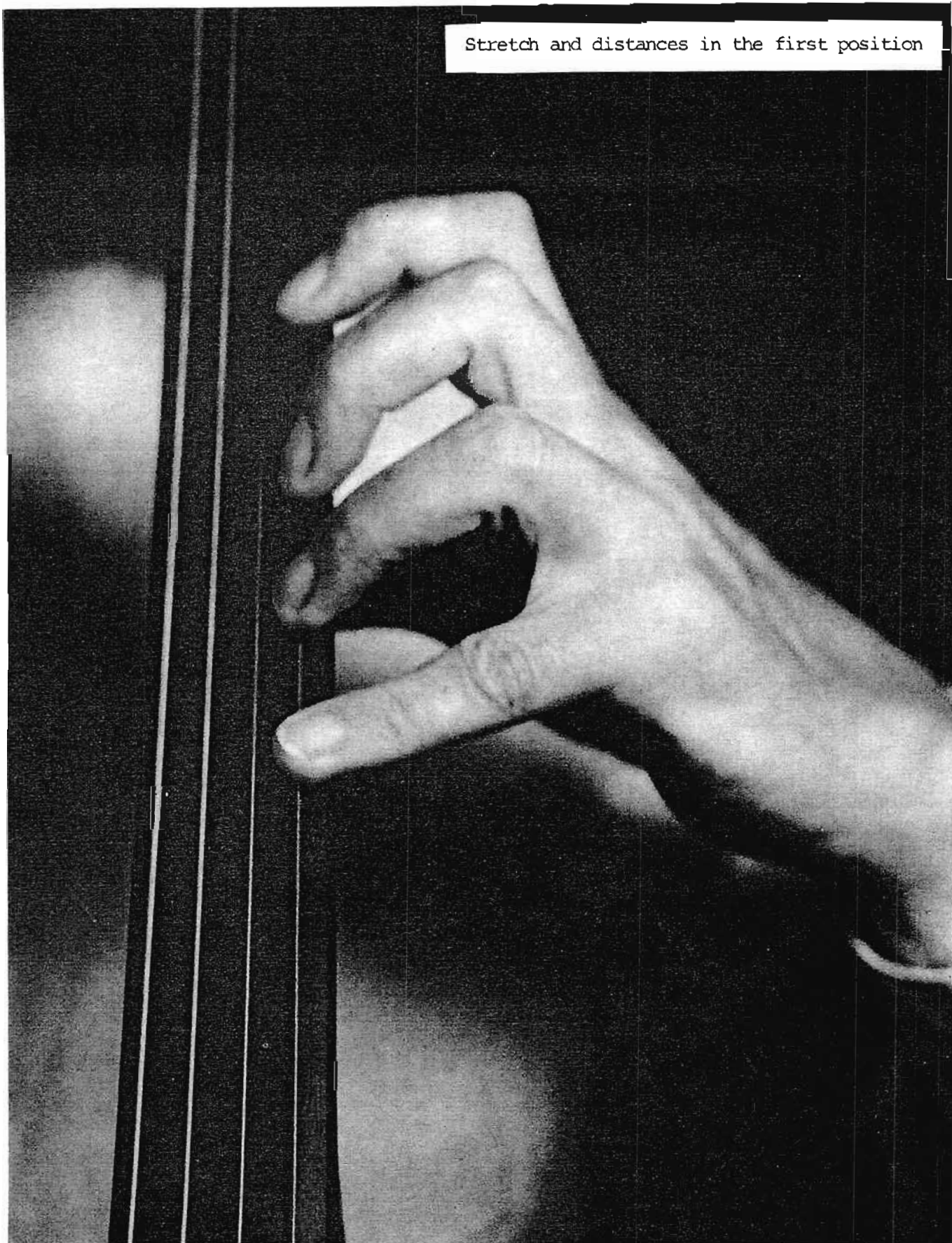
Correct position of the thumb



Incorrect position of the thumb



Stretch and distances in the first position



C. The Position of the Left Hand

The correct placement of the left hand on the fingerboard can be obtained in the following manner. As with the right hand, again oppose the thumb and middle finger of the left hand so that they just touch, but this time let the middle finger tip touch the left corner of the thumb. Again, the opposing fingers can be freely worked in and out. The upper arm is then raised a bit away from the body. Using the elbow as a fulcrum, the hand in its opposed finger placement can be swung in an arc so that the finger tips just touch the student's mouth. Now, move the forearm back half the length of the arc, turn it slightly to the left, slightly arch the wrist, and insert the cello neck between the opposing fingers so that only the finger tips touch the strings. When correctly placed, the fingers appear on the D string in a subtly curved manner and at a proper distance from each other (the teacher should demonstrate this to the pupil). The student will find that the left corner of the thumb as it leans against the back of the cello neck is naturally opposed to the middle finger.

What should occur as the hand moves up and down the fingerboard is a free action of the fingers rather than a convulsive grip. The thumb should never be used to give additional support to the fingers above it by pressing against the neck. Rather, the fingers should always move from a concentration of power whose "focus" is through the knuckles of the hand in a direct line to the fingerboard. Everything about the hand revolves around this center of power. Everything is concentration of power and of sound. If power is felt to go through the hand in this way, the hand will more naturally fall into its correct lie.

Fingers are never placed individually on the fingerboard or on a string. They always support each other. Finger 1 is supported by the thumb, finger 2 is supported by 1, etc.

From the beginning, the student should also imagine and feel that each note has its own distinct place in the fingerboard. The board should not be a blank plane but should be thought of as having holes in it for each tone - and the fingers should be able to fit exactly into each one. Such a procedure will rapidly develop a rapport between the student and his instrument.

D. How to Practice

Organized practicing is the first step to success. The student should first approach the actual physical side of practice constructively and intelligently. He should check his posture as he sits, the position of the instrument in relation to his body and hands; notice should be taken that the shoulder muscles, those behind the shoulder blades, the fingers of the left hand, its thumb on the cello neck, and the right thumb on the bow frog are relaxed but "aware" - in fact, the student should take advantage of everything that will help him to achieve the best results in the shortest time. He should remember that tension is as much the hindrance to progress and the cause of discord as the free and dynamic coordination of all performing elements is its helpmeet. Thus, the ideal conditions for performance are complete relaxation of the body in tandem with alertness in the fingers of both hands.

The other part of organized practicing is an imaginative approach to all musical problems. The student should study technique analytically and should know ahead of performance what he wants to say and how he wants to say it. In this way, what he has learned will always serve as the foundation for what he has yet to learn and his goals will ever be clear before him.

PART ONE

FIRST STEPS

CHAPTER 1

OPEN-STRING BOWING - CHANGING STRINGS ON A BOW STROKE

Separate Bowings - Preparatory Exercises

Placing the Bow on String II:

Since strings II and III are the center of the instrument, the student will find that the middle of the bow can be placed on these strings with greater facility than upon the outer strings and the bow moved more easily in either direction. It is on these two strings that the student most naturally, at first, achieves the transfer of arm and shoulder weight through the bow.

In the following exercises, the pupil places the bow on string II, alternately at the frog, at the middle, and at the tip.



at the middle,



and at the tip.

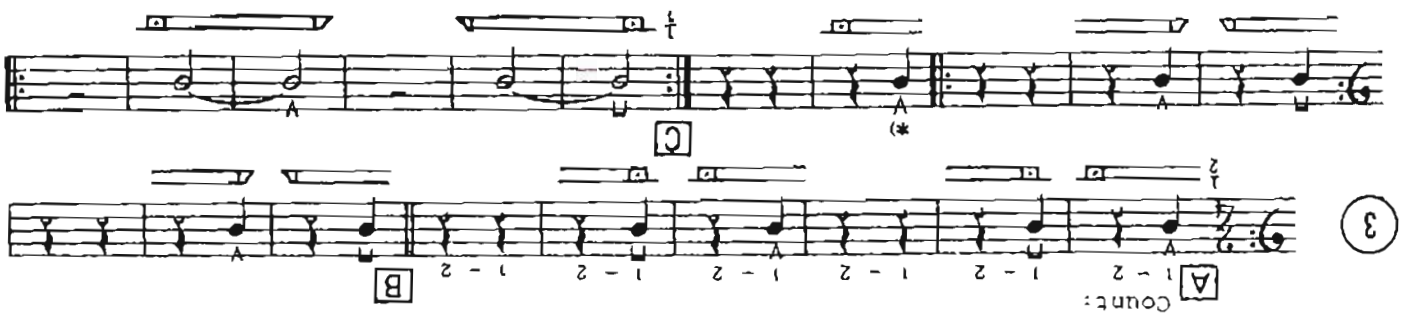
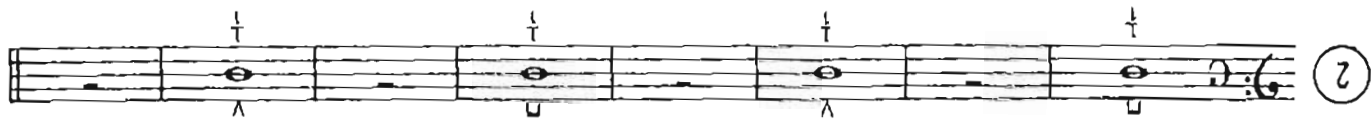


(Each of these pictures of bow placement on string is represented by a symbol which will be presented, explained and used in Chapter 2.)

The first exercise is to be done with very short bow movements of about one inch. The tapping or flicking movements on the point, at the middle, and at the frog of the bow on the string are essential for the balance of the bow. The rests should be observed exactly, even counted aloud, during which period the student should mentally and physically prepare himself for the subsequent movements.

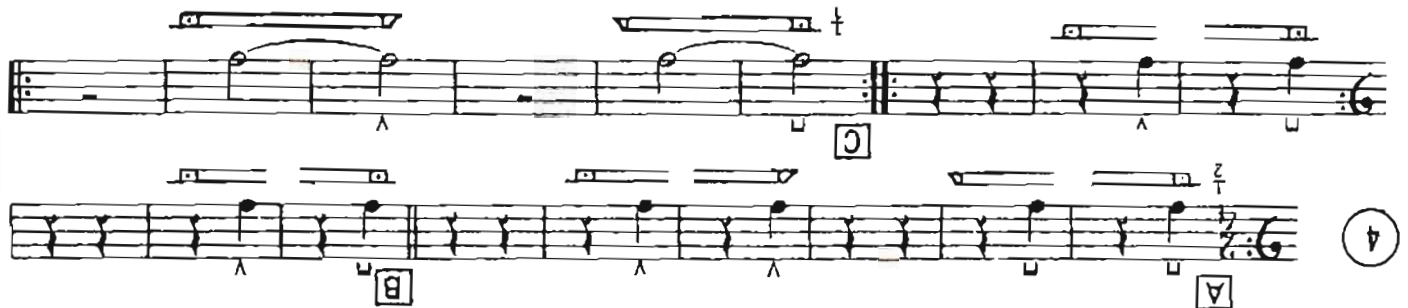


In the following two exercises, the teacher's left hand holds the pupil's right hand at the wrist, while the teacher's right hand holds the fingers of the same hand together with the frog of the bow, thereby guiding the bow which, in turn, is held by the pupil closely against the string.

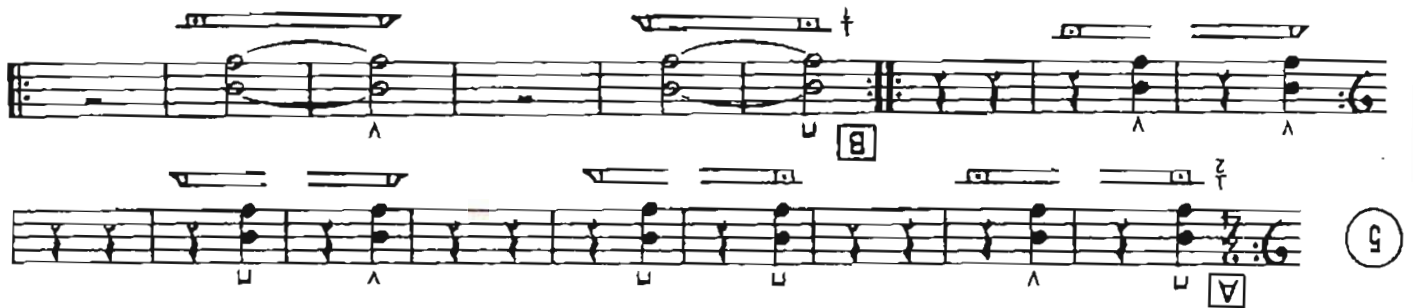


In Exercise 4, the student plays on string III; in Exercise 5, on II and III together. The procedures outlined above also apply here.

Bowings on String III:



Simultaneous Bowings on Strings II and III:



In this next exercise, the teacher assists the pupil in the same fashion as above. During the measure rests, the pupil tries to hold the bow in the correct manner without any help from the teacher who, of course, stands ready to correct any errors that may occur.

This exercise is to be performed always using the entire playing surface of the bow. Physiologically, the stroke from the frog to the middle is primarily involved with shoulder action because of the length of the note, and from the middle to the tip, primarily with elbow action. When using the latter bow area, it is necessary to gradually increase the weight of the bow in order to preserve the intensity of the tone. However, the weight of the bow should not be placed against the string with both the shoulder and the elbow stiff and raised. This will lead to too much weight and to "choking" of the sound because the bow is given an unnecessary load of power. During the rests, the bow is to be held with the same force against the string as during the actual playing.

Later, the pupil, by himself and without any help from the teacher, may perform each bowing (as in the exercise below) with a full and uniform tone, patiently drawing the whole bow as slowly as possible across the string so that each stroke may last as long as half a minute or even longer!



CHAPTER 2

CHANGING AND CONNECTING BOW STROKES

In connecting two bow strokes, both the wrist and the fingers holding the bow participate. Whatever the force of the changing action, it is most important not to loosen the contact between the bow and the string and to

- (1) mentally prepare the attack for the next note during rests;
- (2) maintain the same force when attacking each bar;
- (3) connect the bowings without intermediate accents.

A. Preparatory Exercise for Changing Bows



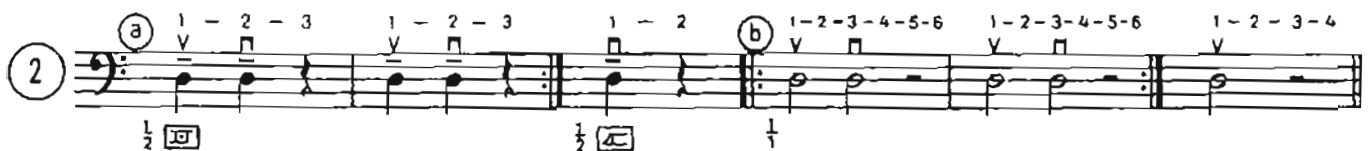
Here, bowing is performed exclusively because of the shortage of bow movement and to keep the bow motion under complete control. To make certain that the student does not use elbow or shoulder action the teacher should immobilize the student's forearm by holding it. When this exercise is bowed at the frog or at the middle, the bow moves five to seven inches across the string (see diagram 1, below); but when bowed at the tip, the bow is thrown off the string, causing only a tap (see diagram 2).



B. Exercises for Connected Bowings - *Détaché* - *Legato*

Connecting Bowings on String II:

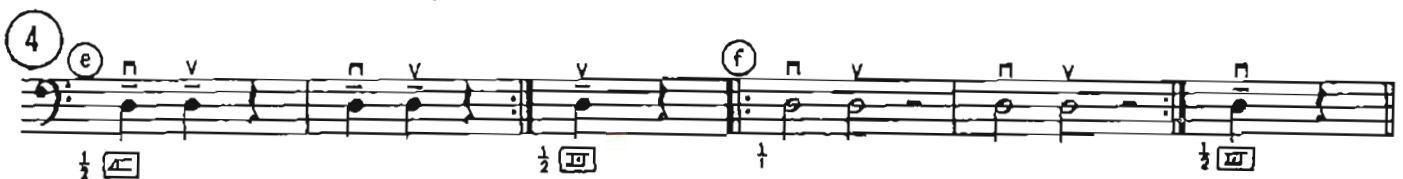
Changing at the Frog



Changing in the Middle



Changing at the Tip



In the above, play each section several times. The entire exercise is to be performed without interruption, and the repeats must be taken.

The intensity and quality of tone depends on

- (1) the proper bow movement and attack to create equal sound vibrations through equally distributed weight;
- (2) the rapidity of bowing;
- (3) the proper contact between bow and string.

The instrument itself will tell the student when there is too much or too little weight through a scratchy, crackling sound if there is too much, and a light or "whistle-y" sound if there is too little. By concentrated listening, the student will learn to adjust the weight of his hand in order to produce the proper contact with the strings, and thus create a concentrated sound in *piano* as well as in *forte*. The degree of tone intensity is determined by

- (1) the attack of the bow;
- (2) the rapidity of bowing;
- (3) the proximity of the bow to the bridge.

Very near the bridge, it is impossible to produce a normal tone; instead, only a so-called *sul ponticello* (Italian for "on the bridge") tone results - a tone of dry characteristics without the normal string resonance.



In the exercise above, bowings should be practiced with varying degrees of attack strength and at different speeds, the length of the bow used being equal in every case.

C. An Exercise for Comparative Amounts of Bow Movement



At the end of each dotted half note the bow is raised from the string and the arm is brought into position again through a circular movement to attack the next note as shown in the diagrams on page 9.

D. Constant-Speed Bowings with the Same Part of the Bow

The variations in the example below, from (a) through (h), are to be played alternately with the whole bow, the lower half of the bow, and the upper half of the bow; then, finally, as indicated in the example itself.

CHAPTER 3

CONSTANT-SPEED BOWINGS WITH THE SAME PART OF THE BOW IN OPEN-STRING DOUBLE STOPS

(a)

(b)

(c)

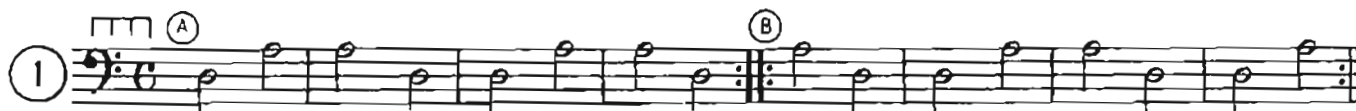
The shift from one double stop to another (x1, x2) should be conducted in the following manner:



CHAPTER 4

EXERCISES FOR THE EASY CHANGING FROM STRING TO STRING

In this chapter we are concerned, in a limited sense only, with the technique of changing from string to string. Rather, elements of the technique are necessary for the performance of certain typical successions of notes played on two neighboring strings and involved with frequent transitions from one string to another, as in the following:



Play the same pattern on all four strings.

Variations



Variations



The student must be sure to remember to perform these exercises on all four strings. They should be performed slowly at first, and then more rapidly and with differing attacks as facility is gained.

What we are concerned with here are the differences between changing from the D to the A string as opposed to changing from the D to the G string. In either case, the changing motion of the bow is very small. However, from the D to the G string the changing motion should be made with the help of the shoulder blade rather than with the motion of the arm alone, as in the change from the D to the A string. The change from the G to the C string is also as small as the previous changes, but the elbow, instead of moving out and up into an awkward raised position, follows the motion of the shoulder blade and the natural, contained curve of the body. In this position, the hand and the entire arm resemble the position of a swimmer naturally stroking and preparing to move the arm above the head.

The following exercises are also to be played on all four strings:

3

4

Exercises 3 and 4 above are to be played in a rapid tempo. The detached notes are to be played with the same length of bow as those that are bound by slurs, but with bowings of different speeds and attack.

In a rapid tempo, the right-hand wrist actions necessary for bow changes (from left to right and back again) are combined with the actions necessary for the changing of strings (up and down) into one uniform and uninterrupted action. The bow seems to be bowing on an imaginary string between the upper and lower string. The arrows in the visualization below describe the movements the bow frog and right hand make while the exercise is actually being played. If these movements are correct, the motion pattern can readily be seen by the student while he watches the shiny screw of the frog of the bow.

5

CHAPTER 5

HALF-STEP EXERCISES ON ONE STRING

Placing the Fingers on the Fingerboard

Here, it must be repeated that the planes of the fingers and the fingerboard are parallel while the fingers themselves form a right angle with the edge of the fingerboard, with only the tips of the fingers touching the string.

The left side of the thumb above the nail leans, but is not pressed, against the neck of the cello. The upper arm is raised, a little detached from the body. The lower in pitch and further to the right the string on which we bow, the more the left elbow is raised so as to allow the fingers to preserve their normal position on the fingerboard.

On the other hand, the left elbow must never descend below its usual height when fingering in first position on the A string because this would break the natural curve of the arm to the body.

The exercises below should be practiced at first pizzicato, then arco, on string II, and then on all four strings:

The exercises are presented on three staves, each with a diagram of fingerings and a corresponding musical notation. The first staff (a) shows a sequence of half-step exercises with fingerings 4, 3, 2, 1 and 2, 3, 4. The second staff (c) shows a sequence of half-step exercises with fingerings 4, 3, 2, 1 and 2, 3, 4. The third staff (e) shows a sequence of half-step exercises with fingerings 4, 3, 2, 1 and 2, 3, 4. The musical notation for each staff is in bass clef, with a key signature of one sharp (F#) and a 2/4 time signature. The notation includes various note values and rests, with some notes marked with a 'p' for pizzicato.

In addition, the pizzicato should be studied in the following ways:

The exercises are presented on three staves, each with a different pizzicato technique indicated. The first staff (1. pizz.) shows a sequence of half-step exercises with fingerings 4, 3, 2, 1 and 2, 3, 4. The second staff (2.) shows a sequence of half-step exercises with fingerings 4, 3, 2, 1 and 2, 3, 4. The third staff (3.) shows a sequence of half-step exercises with fingerings 4, 3, 2, 1 and 2, 3, 4. The musical notation for each staff is in bass clef, with a key signature of one sharp (F#) and a 2/4 time signature. The notation includes various note values and rests, with some notes marked with a 'p' for pizzicato.

EXERCISES WITH HALF NOTES ON TWO SUCCESSIVE STRINGS

Exercise 1: Bass clef, 2/4 time. Notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4. Fingering: 2, 1, 4, 3, 2, 1, 4, 3, 2, 1, 2, 1, 4, 3, 2, 1. String diagrams show positions for strings 1, 2, 3, and 4.

Exercise 2: Bass clef, 2/4 time. Notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4. Fingering: 4, 3, 2, 1, 4, 3, 2, 1, 4, 3, 2, 1, 2, 1, 4, 3, 2, 1. String diagrams show positions for strings 1, 2, 3, and 4.

Exercise 3: Bass clef, 2/4 time. Notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4. Fingering: 4, 3, 2, 1, 4, 3, 2, 1, 4, 3, 2, 1, 4, 3, 2, 1. String diagrams show positions for strings 1, 2, 3, and 4.

Exercise 4: Bass clef, 2/4 time. Notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4. Fingering: 4, 3, 2, 1, 4, 3, 2, 1, 2, 1, 2, 3, 2, 1, 4, 3, 2, 1. String diagrams show positions for strings 1, 2, 3, and 4.

Exercise 5: Bass clef, 2/4 time. Notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4. Fingering: 1, 3, 2, 4, 1, 3, 2, 4, 4, 3, 2, 1, 1, 3, 2, 1. String diagrams show positions for strings 1, 2, 3, and 4.

Exercise 6: Bass clef, 2/4 time. Notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4. Fingering: 4, 3, 2, 1, 4, 3, 2, 1, 4, 3, 2, 1, 4, 3, 2, 1. String diagrams show positions for strings 1, 2, 3, and 4.

Exercise 7: Bass clef, 2/4 time. Notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4. Fingering: 2, 1, 2, 3, 4, 3, 2, 1, 2, 3, 4, 3, 2, 1. String diagrams show positions for strings 1, 2, 3, and 4.

Variations

Variations 1 through 8 are shown on a single staff. Each variation is marked with a number (1-8) and a specific fingering or articulation symbol below the staff.

During the stops, the left hand anticipates the following tone by means of a strong percussion.

CHAPTER 7

THE CLARIFICATION OF INTONATION
THROUGH LEFT-HAND PERCUSSION STROKES,
ATTACKS AND PIZZICATI
(the power coming always through the knuckles)

The following exercises lead to exact intonation by allowing the pupil to hear directly the sound produced by a particular left-hand finger placement.

After each ascending note is played by percussion (p), the descending note is plucked, or played pizzicato (+) by the finger that was previously on the string. In this action, the finger is not raised vertically, as in a percussion stroke, but is only rounded a little towards the palm in such a way that the rounding action plucks the string. The plucking action can only be conveniently performed in the descending mode since, in the ascending mode, the finger will necessarily have to leave the string to pluck it and, thereby lose the desired pitch.

When plucking the string in Exercise 1, the student must be sure to raise the entire hand after each note preparatory to its attack upon the next note. (Raising only the plucking finger would cause the hand not to work as a unit, creating a lack of the concentrated application of power and a senseless feeling of motion.) The placement and pick-up of the fingers should resemble the attack and release of a boxer's punch or the rebound of a ball. When practiced over a period of time, this exercise gradually creates an alertness to and flexibility of finger movements.

In Exercise 2, the entire hand is already on the string when the fingers are raised in a plucking motion, then replaced upon the string in order to perform the same action again.

The plucking motion of the fourth finger on the notes marked "+" forces it, together with the second and third fingers, to leave the string and rise into the air as if preparing a dive onto the next note from the heights above the string. It must be emphasized that to pluck the string with any but the finger that plucked the previous note is a waste of energy. The student will find these movements particularly useful in the later study of positions, stretches and hand extensions.

The following exercises should be performed on all strings. As will be obvious to the student, the bow is used only in Exercise 3.

①

1 2 3 4 3 4 3 2

P P P P + P + + P + P P

P + P + P + P + P P + P + + P +

②

I II III

③

arco

2 1



CHAPTER 8

EXERCISES FOR FINGER DEXTERITY

In the following exercises, the fingers at all times must be highly arched above the fingerboard at the first joint from the knuckle. Special attention must be paid to the third finger, since it is the weakest finger when used in this manner, and the least archable.

Slow

a) ①

b)

c)

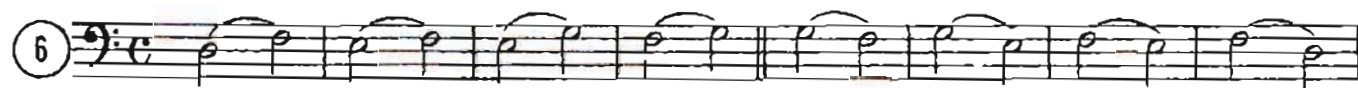
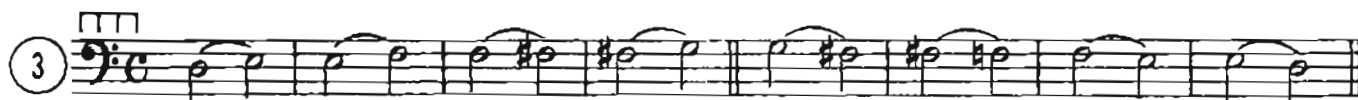
*In this and the other examples in the combination 1-2-4, the third finger, because of its supporting function, falls simultaneously with the fourth.



The following exercises are to be performed in the same way and, again, on all strings:

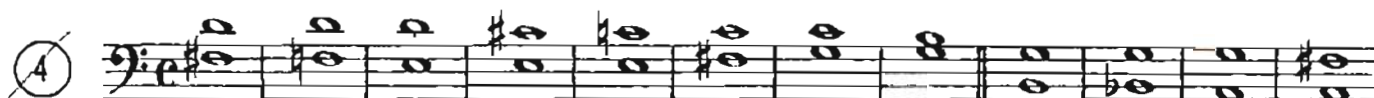
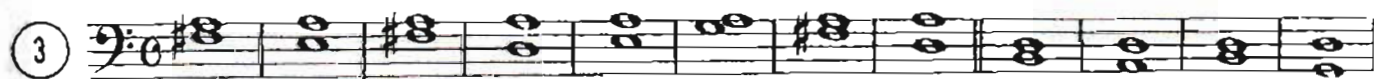
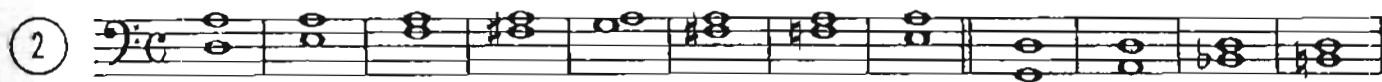
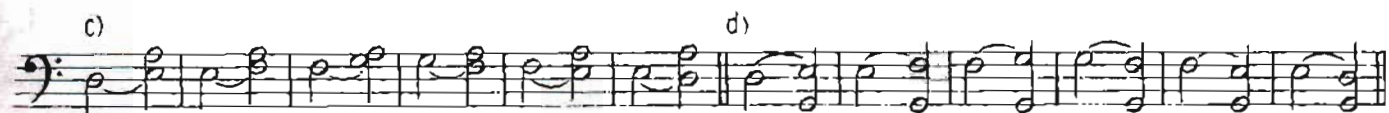
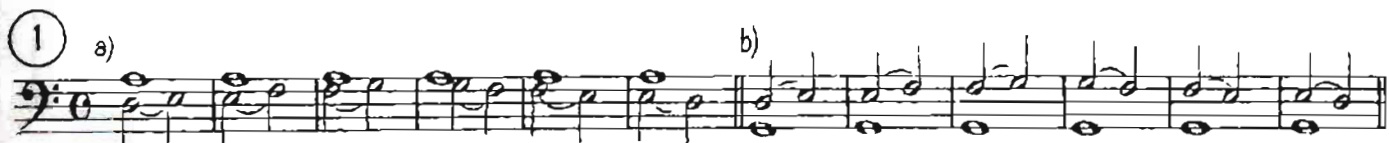


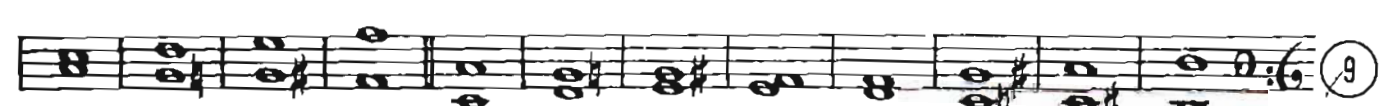
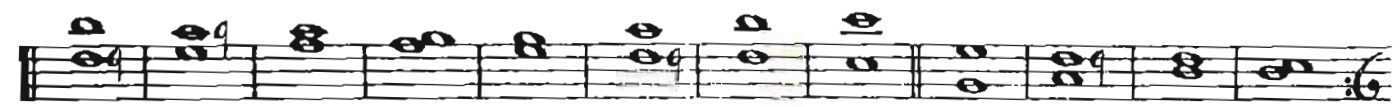
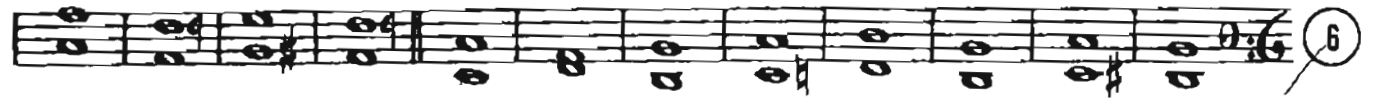
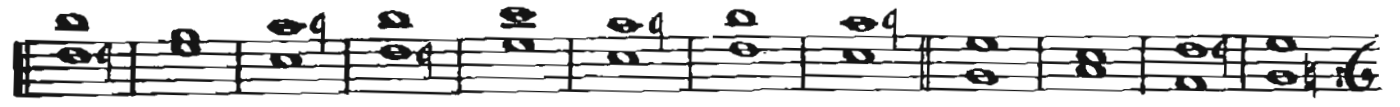
**In this and the other examples in the combination 1-3-4, the second finger, because of its supporting function, falls simultaneously with the third.*



INTONATION EXERCISES USING AN ADJACENT OPEN STRING

At first, each of the exercises below should be performed with either one of the fingered notes (if there are two) alternately replaced by the open string. By this usage, the student will be able to hear with greater clarity if the interval formed by the fingered note and the open string is in tune and if the fingered note itself is at the correct pitch. Concentrated listening will lead to good intonation practices. As proficiency is attained, the fingered note may again be substituted for the open string.





EXERCISES IN CONJUNCT SCALES, SKIPS AND ARPEGGIOS

Each scale should always be studied in the following sequence: the scale itself, the scale as applied to thirds, as applied to fourths, as applied to sixths, to octaves, and then to arpeggiated chords. Pay particular attention to the study of the last item.

Fingering symbols are indicated in some exercises only. In all others, symbols appear only where the fingering can be misconstrued.

A. Conjunct Movement in Quadruple Meter

1 G major

2 C major

3 F major

4 D major

5 C major

RV

D major

6

C harmonic minor

7

C melodic minor

Note to the student: Each minor-scale exercise should always be performed both in its harmonic and melodic scale forms.

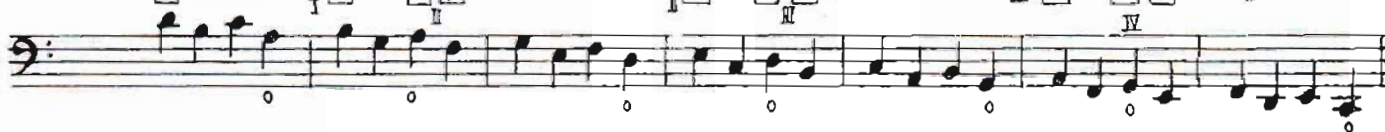
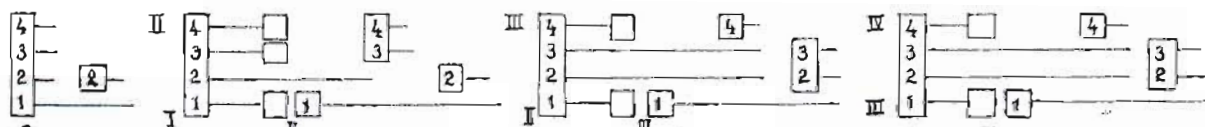
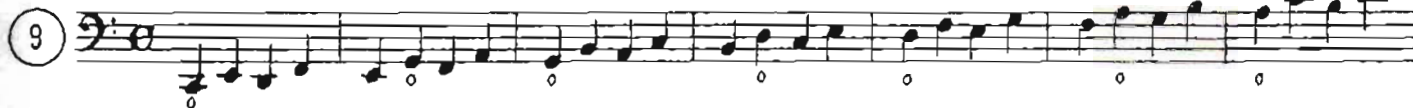
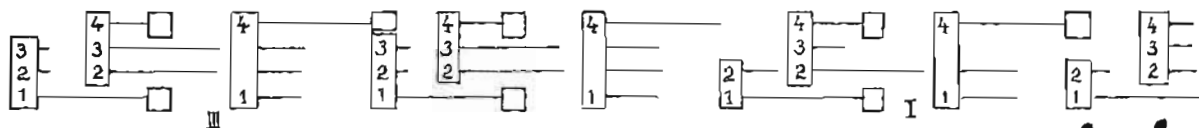
D minor

8

When the pupil has mastered the exercises above in the given common keys, the same patterns should be transferred to more remote keys and played in triple meter.

B. Movement in Skips of Thirds

Preparatory exercise for the left hand



10



11



12



13

C. Movement in Skips of Fourths

Preparatory exercise

14

D. Movement in Skips of Sixths

Preparatory exercise

15

E. Movement in Arpeggiated Chords and Chromatic Scales

To insure precise intonation throughout the exercises in section E, it is advisable, whenever possible, to keep the third finger without movement on its string. This will insure, in turn, that the hand remains in first position and does not inadvertently move higher or lower when changing from string to string as it very well might if it released the string entirely.

As a general rule, whenever the student moves a finger from one string to another, the hand should remain in contact with the finger-board. Only the fingers themselves are raised, not the entire hand. The student should also endeavor to place the finger with a definite motion, as though he were hooking the fingertip to the string.

The image displays four musical exercises, numbered 16 through 19, in bass clef and 2/4 time. Exercises 16 and 17 include fingerings for arpeggiated chords, while exercises 18 and 19 are chromatic scales.

Exercise 16: Consists of two staves. The first staff contains an arpeggiated chord exercise with fingerings: 3 2 1, 4, 4 3 2 1, II 4 3 2, and I 4 3 2. The second staff contains a chromatic scale descending from G2 to C1, with fingerings: 4 3 2 1, 4 3 2, III 4 3 2, 4 3 2, IV 3 2 1, and 3 2 1.

Exercise 17: Consists of two staves. The first staff contains an arpeggiated chord exercise with fingerings: 3 2 1, 4, II 4 3 2, I 4 3 2, 4 3 2, 4 3 2, and III IV 4 3 2 1. The second staff contains a chromatic scale descending from G2 to C1.

Exercise 18: Consists of two staves. Both staves contain a chromatic scale descending from G2 to C1.

Exercise 19: Consists of two staves. Both staves contain a chromatic scale descending from G2 to C1.

20 

21 



22 




23 

24  25 

 26 

27 



28 

29 


30

IV 1
3 2
3 2 1
I 1
4 3 2
4 3 2
4 3 2
4 3 2
II 4 3 2 1
3 2 1
1

31

32

IV 3 2 1
III

33

34

35

36

III 3 2 1
II 4 3 2
IV 4 3 2
2 1
4 3
III 4 3

37

38

4 2
4 3 2 1
4
4 3 2
1
3
3 2 1
3
II 4 3 2 1
I 4 3 2 1
2 1

39

40

41



CHAPTER 11

BOWED ETUDES IN QUARTER NOTES

At first, these etudes are to be played in a very slow tempo with the whole bow, then with the lower half, and finally with the upper half. They should also be played at a constant loudness level, with even rhythm, good legato, unvarying attack, no accents, uniform timbre and no vibrato. The pupil should maintain the same weight and intensity for both up and down bows.

When the pupil has mastered these etudes to his teacher's satisfaction, he may then repeat the exercises with the variations written underneath each. As the pupil advances in technical facility, he should be encouraged to practice the exercises in this book employing the written variations at every opportunity. In addition, he should apply the principles of previous exercises to later ones, and create original variations of his own.

The fingering in the following etudes has been omitted on purpose, because it is assumed that the pupil has acquired enough knowledge by this time to undertake this task. Where alternate fingerings are possible, the fingers that should be used on a particular string have been placed at the head of each exercise.

III. 1. 2. 4. — II. 1. 2. 4.



II. 1. 2. 4. — I. 1. 2. 4.



II. 1. 3. 4. — I. 1. 3. 4.





IV. 1. 3. 4. — III. 1. 3. 4.



II. 1. 2. 3. 4. — III. 1. 2. 3. 4.



I. 1. 2. 3. 4. — II. 1. 2. 3. 4.



5

a) $\frac{1}{2}$ b) $\frac{1}{2}$

6

a) $\frac{1}{2}$ b) $\frac{1}{2}$

II. 1. 3. 4. — I. 1. 2. 4.

7

3 3 3

3

3

1 2 3 1 2 3

⑧

3

6

written:

performed:

a) b) c)

⑨

3

6

6

d) 1 2 3 b) 1 2 3 c) 1 2 3

⑩

a) $\frac{1}{2} \times$ b) c) $\frac{1}{2} \times$ d) $\frac{1}{2} \times$

⑪

a) b) c)

⑫

a) $\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$ b) $\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$ c) $\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$ d) $\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$

⑬

a) b) c) $\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$ d) $\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$

⑭



17

a) $\frac{7}{4}, \frac{1}{2}^*$ b) c) $\frac{1}{4}^*$ d)

18

a) $\frac{10}{8}$ b) $\frac{10}{8}$ c) $\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{3}$

19

a) b) $\frac{10}{8}$ $\frac{1}{4}$ $\frac{1}{4}$



CHAPTER 12

SHIFTING FINGERS ON A STRING

A. First-Finger Glissando Shifts:

Whole- and Half-Step Movements Up and Down Individual Strings

The pedagogical purpose of this chapter is to introduce the student to the conception that playing the cello should be as easy and spontaneous as breathing. Concretely, it introduces the student to movement out of the first position and is also the first step toward the exploration of new fingering sensations and the enlargement of the field of the hand's activities. It is here that the student should first realize that any exercise (as well, indeed, as any piece of music), performed on any instrument, is accomplished through an intricately connected series of physical "journeys" or "processes" - here, the bow hand guiding the bow back and forth on the strings and the left hand going from one place to another on the fingerboard. It is the effect of one "journey" on the next that determines the ease of performance and the character of interpretation.

Thus, where the hand has been on the fingerboard affects a number of "processes:" the position of the hand and how it got there; where the hand is going and what fingering should be employed to get there; the difficulty in completing the "journey;" and whether the results obtained (that is, the coloring of a note and the phrasing of a passage that give music its life) are worth the effort expended. This conception of fin-

gering technique as a series of processes will later provide the justification for the purposeful study of stretches, hand extensions, position shifts and the sixteen basic finger-changing patterns; for the more ways the student finds to approach a note, the more its color can be varied and the more comfortable, natural and "instinctive" will be its fingering and that of the notes that surround it.

The student, therefore, should not identify a finger with a note. A distinct change in sensation occurs each time the same note is played with a different finger or approached through a different fingering. For example, in Exercise 1 the student plays the G in measure 1 with the fourth finger in first position; but in measure 2 he plays it with the third finger, the fourth finger plays A^b, and the hand is said to be in *second* position. The student will immediately sense the change in "touch" and ease of production of the G when played by the strong third finger as opposed to the weaker fourth.

In the following exercises, remember that the "lie" of the hand does not change when the hand shifts a half-step up the fingerboard. The fingers remain in the same relative placement to each other while the hand moves as a unit.

To introduce the student to hand extension and open position, all notes played by the fourth finger should be raised a half-step. Thus, the A^b in measure 3 of Exercise 1 would become A⁴, etc. Also, to support the fourth finger in its extension, fingers two and three also move away from the first, thereby changing the "lie" of the hand and moving the hand out of close position. The thumb, of course, has to follow the second finger, in order not to leave the hand in tension.

The correct performance of these whole-step shifts will become the gateway to early mastery of stretches, position shifts and hand extensions. In addition, at this point, the teacher should give the student singing exercises of whole- and half-steps accompanied by demonstrations on the piano of the visual *meaning* of the black and white keys, since there is a direct correlation on both the piano and the cello between motion distance and pitch.

Variation

②

II° III° IV° I°

Variation

The second staff with the "0" marks shows approximately where the thumb should be placed along the back of the neck while the fingers are performing the contents of the first staff.

③

I-1 I-2 NV x1

I-3 I-4 NV x2

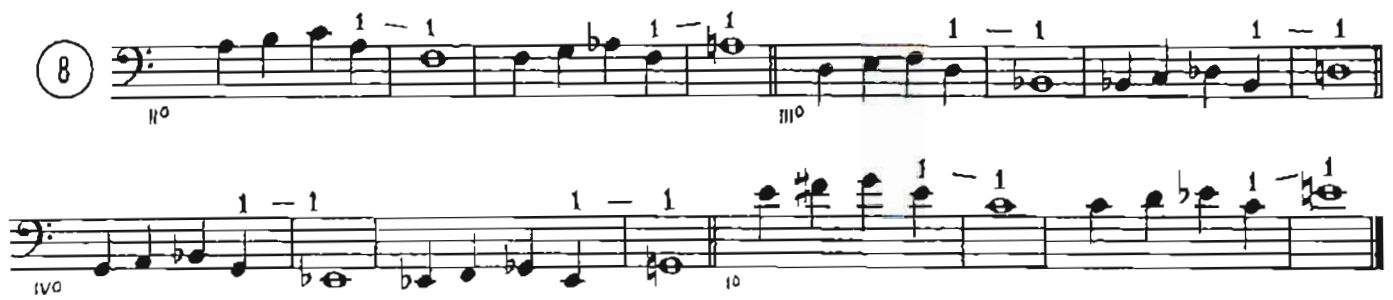
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I-1 I-2 NV x7

I-4

B. First-Finger Glissando Shifts: Skips of Major and Minor Thirds

Exercise 5: First-Finger Glissando Shifts. The exercise is written in bass clef with a key signature of one flat (B-flat). It consists of two staves. The first staff contains two measures of music, each with a circled number 5. The first measure starts on a whole note G2 (labeled II⁰) and moves through a series of eighth notes: A2, B-flat2, C3, D3, E3, F3, G3, A3, B-flat3, C4, D4, E4, F4, G4, A4, B-flat4, C5, D5, E5, F5, G5, A5, B-flat5, C6, D6, E6, F6, G6, A6, B-flat6, C7, D7, E7, F7, G7, A7, B-flat7, C8, D8, E8, F8, G8, A8, B-flat8, C9, D9, E9, F9, G9, A9, B-flat9, C10, D10, E10, F10, G10, A10, B-flat10, C11, D11, E11, F11, G11, A11, B-flat11, C12, D12, E12, F12, G12, A12, B-flat12, C13, D13, E13, F13, G13, A13, B-flat13, C14, D14, E14, F14, G14, A14, B-flat14, C15, D15, E15, F15, G15, A15, B-flat15, C16, D16, E16, F16, G16, A16, B-flat16, C17, D17, E17, F17, G17, A17, B-flat17, C18, D18, E18, F18, G18, A18, B-flat18, C19, D19, E19, F19, G19, A19, B-flat19, C20, D20, E20, F20, G20, A20, B-flat20, C21, D21, E21, F21, G21, A21, B-flat21, C22, D22, E22, F22, G22, A22, B-flat22, C23, D23, E23, F23, G23, A23, B-flat23, C24, D24, E24, F24, G24, A24, B-flat24, C25, D25, E25, F25, G25, A25, B-flat25, C26, D26, E26, F26, G26, A26, B-flat26, C27, D27, E27, F27, G27, A27, B-flat27, C28, D28, E28, F28, G28, A28, B-flat28, C29, D29, E29, F29, G29, A29, B-flat29, C30, D30, E30, F30, G30, A30, B-flat30, C31, D31, E31, F31, G31, A31, B-flat31, C32, D32, E32, F32, G32, A32, B-flat32, C33, D33, E33, F33, G33, A33, B-flat33, C34, D34, E34, F34, G34, A34, B-flat34, C35, D35, E35, F35, G35, A35, B-flat35, C36, D36, E36, F36, G36, A36, B-flat36, C37, D37, E37, F37, G37, A37, B-flat37, C38, D38, E38, F38, G38, A38, B-flat38, C39, D39, E39, F39, G39, A39, B-flat39, C40, D40, E40, F40, G40, A40, B-flat40, C41, D41, E41, F41, G41, A41, B-flat41, C42, D42, E42, F42, G42, A42, B-flat42, C43, D43, E43, F43, G43, A43, B-flat43, C44, D44, E44, F44, G44, A44, B-flat44, C45, D45, E45, F45, G45, A45, B-flat45, C46, D46, E46, F46, G46, A46, B-flat46, C47, D47, E47, F47, G47, A47, B-flat47, C48, D48, E48, F48, G48, A48, B-flat48, C49, D49, E49, F49, G49, A49, B-flat49, C50, D50, E50, F50, G50, A50, B-flat50, C51, D51, E51, 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E292, F292, G292, A292, B-flat292, C293, D293, E293, F293, G293, A293, B-flat293, C294, D294, E294, F294, G294, A294, B-flat294, C295, D295, E295, F295, G295, A295, B-flat295, C296, D296, E296, F296, G296, A296, B-flat296, C297, D297, E297, F297, G297, A297, B-flat297, C298, D298, E298, F298, G298, A298, B-flat298, C299, D299, E299, F299, G299, A299, B-flat299, C300, D300, E300, F300, G300, A300, B-flat300, C301, D301, E301, F301, G301, A301, B-flat301, C302, D302, E302, F302, G302, A302, B-flat302, C303, D303, E303, F303, G303, A303, B-flat303, C304, D304, E304, F304, G304, A304, B-flat304, C305, D305, E305, F305, G305, A305, B-flat305, C306, D306, E306, F306, G306, A306, B-flat306, C307, D307, E307, F307, G307, A307, B-flat307, C308, D308, E308, F308, G308, A308, B-flat308, C309, D309, E309, F309, G309, A309, B-flat309, C310, D310, E310, F310, G310, A310, B-flat310, C311, D311, E311, F311, G311, A311, B-flat311, C312, D312, E312, F312, G312, A312, B-flat312, C313, D313, E313, F313, G313, A313, B-flat313, C314, D314, E314, F314, G314, A314, B-flat314, C315, D315, E315, F315, G315, A315, B-flat315, C316, D316, E316, F316, G316, A316, B-flat316, C317, D317, E317, F317, G317, A317, B-flat317, C318, D318, E318, F318, G318, A318, B-flat318, C319, D319, E319, F319, G319, A319, B-flat319, C320, D320, E320, F320, G320, A320, B-flat320, C321, D321, E321, F321, G321, A321, B-flat321, C322, D322, E322, F322, G322, A322, B-flat322, C323, D323, E323, F323, G323, A323, B-flat323, C324, D324, E324, F324, G324, A324, B-flat324, C325, D325, E325, F325, G325, A325, B-flat325, C326, D326, E326, F326, G326, A326, B-flat326, C327, D327, E327, F327, G327, A327, B-flat327, C328, D328, E328, F328, G328, A328, B-flat328, C329, D329, E329, F329, G329, A329, B-flat329, C330, D330, E330, F330, G330, A330, B-flat330, C331, D331, E331, F331, G331, A331, B-flat331, C332, D332, E332, F332, G332, A332, B-flat332, C333, D333, E333, F333, G333, A333, B-flat333, C334, D334, E334, F334, G334, A334, B-flat334, C335, D335, E335, F335, G335, A335, B-flat335, C336, D336, E336, F336, G336, A336, B-flat336, C337, D337, E337, F337, G337, A337, B-flat337, C338, D338, E338, F338, G338, A338, B-flat338, C339, D339, E339, F339, G339, A339, B-flat339, C340, D340, E340, F340, G340, A340, B-flat340, C341, D341, E341, F341, G341, A341, B-flat341, C342, D342, E342, F342, G342, A342, B-flat342, C343, D343, E343, F343, G343, A343, B-flat343, C344, D344, E344, F344, G344, A344, B-flat344, C345, D345, E345, F345, G345, A345, B-flat345, C346, D346, E346, F346, G346, A346, B-flat346, C347, D347, E347, F347, G347, A347, B-flat347, C348, D348, E348, F348, G348, A348, B-flat348, C349, D349, E349, F349, G349, A349, B-flat349, C350, D350, E350, F350, G350, A350, B-flat350, C351, D351, E351, F351, G351, A351, B-flat351, C352, D352, E352, F352, G352, A352, B-flat352, C353, D353, E353, F353, G353, A353, B-flat353, C354, D354, E354, F354, G354, A354, B-flat354, C355, D355, E355, F355, G355, A355, B-flat355, C356, D356, E356, F356, G356, A356, B-flat356, C357, D357, E357, F357, G357, A357, B-flat357, C358, D358, E358, F358, G358, A358, B-flat358, C359, D359, E359, F359, G359, A359, B-flat359, C360, D360, E360, F360, G360, A360, B-flat360, C361, D361, E361, F361, G36



C. Perfect-Fourth Glissando Shifts Employing the First and Fourth Fingers

In the following sequential exercises, the first finger is employed in shifting the entire hand a perfect fourth up, and the fourth finger in shifting the entire hand a perfect fourth down. Original exercises should be created using other fingers in perfect-fourth shifts on all strings.



The finger-overlapping that occurs in Exercise 10 is another introduction to the techniques used in changing position:



D. Shifts of an Augmented Fourth or a Diminished Fifth

In order to accustom the first finger to moving the interval of the augmented fourth or the diminished fifth, it is advisable, after studying the preliminary exercises, to study the exercises that follow by first playing only the first sixteenth note of each group of four; this method is notated in the first measure of Exercise 11. In practicing the exercises, such an approach will help develop good intonation in shifting.

Preliminary Exercises



This exercise may not only be practiced as an entity in rising half-steps, but its component parts may also be used as motivic cell replacements in Exercises 12 and 13, below.

Exercise 11 is shown in three staves. The first staff is in bass clef with a key signature of one sharp (F#). It contains six measures of eighth notes. The notes and fingerings are: F#2 (1), G2 (1), A2 (1), B2 (1), C3 (1), and D3 (2). Above the staff, the fingerings 1, 1, 1, 1, 1, 2 are written above the corresponding notes. The second staff is in bass clef with a key signature of one sharp (F#). It contains six measures of eighth notes. The notes and fingerings are: F#2 (1), G2 (1), A2 (1), B2 (1), C3 (1), and D3 (2). Above the staff, the fingerings 1, 1, 1, 1, 1, 2 are written above the corresponding notes. The third staff is in bass clef with a key signature of one sharp (F#). It contains six measures of eighth notes. The notes and fingerings are: F#2 (1), G2 (1), A2 (1), B2 (1), C3 (1), and D3 (2). Above the staff, the fingerings 1, 1, 1, 1, 1, 2 are written above the corresponding notes.

Exercise 12 is shown in one staff. It is in bass clef with a key signature of one sharp (F#). It contains six measures of eighth notes. The notes and fingerings are: F#2 (1), G2 (1), A2 (1), B2 (1), C3 (1), and D3 (2). Above the staff, the fingerings 1, 1, 1, 1, 1, 2 are written above the corresponding notes.

Beyond the fourth position, the "lie" of the hand changes. This will be discussed in a later chapter.

E. Finger Substitutions on the Same Note

The purpose of these exercises is to teach the student dexterity of fingering by letting various fingers fall on the same note at the same point on the fingerboard without the preparation required in previous exercises. Here "finger memory" first comes into play. This procedure of finding the right "hole" in the fingerboard is different from previous ones because the hand remains in the same placement and only the fingers move.

In all of the following exercises, the same fingering should be employed at each repetition of a passage played a half-step higher.

13

a)

b)

c)

14

nv.

15

nv.

44

16

4 3 2 1 1 2 3 4 4 3 2 1 1 2 3 4 4 3 2 1 1 2 3 4

4 3 2 1 1 2 3 4 4 3 2 1 1 2 3 4 4 3 2 1 1 2 3 4

4 3 2 1 1 2 3 4 4 3 2 1 1 2 3 4 4 3 2 1 1 2 3 4

etc.

17

a) 4 3 2 1 4 3 2 1 4 3 2 1 4 1 2 3 4 1 2 3 4 1 2 1

b) 4 3 2 1 4 3 2 1 4 3 2 1 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 1

c) 4 3 2 1 4 3 2 1 4 3 2 1 4 1 2 3 4 1 2 3 4 1 2 3 4

etc.

18

a) 4 3 4 3 2 4 2 1 4 1 2 4 2 3 4 3 4 3

b) 4 3 4 3 2 4 2 1 4 1 2 4 2 3 4 4 3 4 3 2 4

c) 2 1 4 1 2 4 2 3 4 3 4 3 4 3 4 3 2 4 2 1 4

d) 1 2 4 2 3 4 4 3 4 3 2 4 2 1 4

etc.

The variant fingerings for the repeated notes in the above exercises are intentional and serve the purpose of introducing the hand to the way the same note "feels" under different fingers.

BASIC FINGER CHANGING PROCESSES FOR THE INDEPENDENCE OF FINGER ACTION

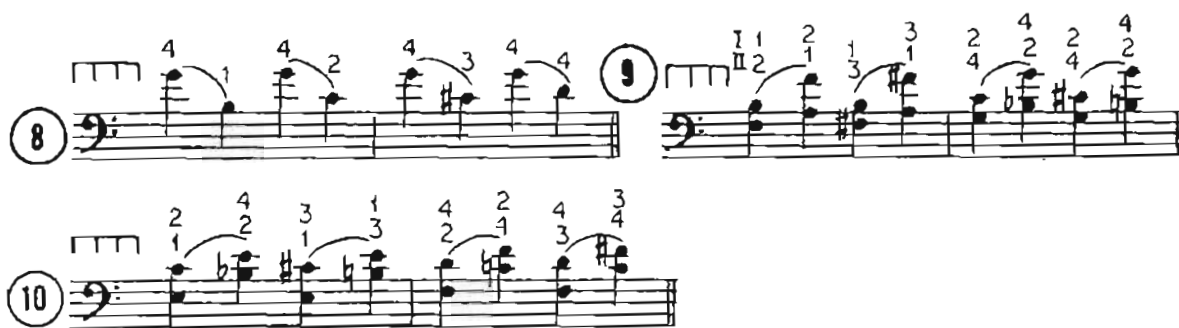
A. Preliminary Exercises

The student should become accustomed not only to the normal sequence of lower finger on lower string and upper finger on upper string but also to the reverse placement. This will also contribute to the independence of finger action.

These exercises should be played on all four strings and in shifts from the first to the fourth position in the same sequence.

The image contains seven numbered musical exercises (1 through 7) written on a single bass staff. Each exercise is a sequence of eighth notes, often beamed in pairs, with finger numbers (1-4) written above the notes to indicate finger placement. The exercises are as follows:

- Exercise 1:** A sequence of eighth notes: 1 (F2), 1 (F2), 2 (G2), 2 (G2), 3 (A2), 3 (A2), 4 (B2), 4 (B2). The notes are beamed in pairs.
- Exercise 2:** A sequence of eighth notes: 1 (F2), 2 (G2), 3 (A2), 4 (B2), 1 (F2), 2 (G2). The notes are beamed in pairs.
- Exercise 3:** A sequence of eighth notes: 3 (A2), 4 (B2), 1 (F2), 2 (G2), 3 (A2), 4 (B2). The notes are beamed in pairs.
- Exercise 4:** A sequence of eighth notes: 1 (F2), 2 (G2), 3 (A2), 4 (B2), 1 (F2), 2 (G2), 3 (A2), 4 (B2). The notes are beamed in pairs.
- Exercise 5:** A sequence of eighth notes: 2 (G2), 1 (F2), 3 (A2), 4 (B2), 2 (G2), 1 (F2), 3 (A2), 4 (B2). The notes are beamed in pairs.
- Exercise 6:** A sequence of eighth notes: 1 (F2), 1 (F2), 2 (G2), 2 (G2), 3 (A2), 3 (A2), 4 (B2), 4 (B2). The notes are beamed in pairs.
- Exercise 7:** A sequence of eighth notes: 1 (F2), 2 (G2), 3 (A2), 4 (B2), 1 (F2), 2 (G2), 3 (A2), 4 (B2), 1 (F2), 2 (G2), 3 (A2), 4 (B2). The notes are beamed in pairs.



The student should practice the first five exercises above with the intention of hearing clearly each intervallic leap before going on to the next one. The rest should be a moment of relaxation in which the student attempts to hear the following leap in his inner ear and prepares himself for its physical performance before actually playing it.

With assiduous practice the student will soon find that he can perform the latter five exercises (Nos. 6 - 10) with greater confidence and truer pitch.

B. Preliminary Exercises for Alternating Groups of Fingers on Two Strings

After Playing No. 11, below, the exercises that follow should be attempted, being sure to keep immobile those fingers not taking part. These exercises should be played on all four strings and in first to fourth positions.

In a): Keep fingers 1 and 3 on the string while playing 4 and 2.

In b): While fingers 2 and 4 are still playing, prepare 1 and 3.

In c): Keeping the other fingers on the string, move only the 4th finger.

In d): Keeping the other fingers on the string, move only the 2nd finger.



C. Exercises in which a Finger is Moved from One String
to the Same Place on an Adjacent String

First Finger

15

Musical exercise 15 for the first finger. It consists of two staves of music in bass clef. The first staff has a key signature of one sharp (F#) and a common time signature. The second staff continues the exercise. The notes are: Staff 1: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5. Staff 2: D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7, D7, E7, F7, G7, A7, B7, C8.

Second Finger

16

Musical exercise 16 for the second finger. It consists of two staves of music in bass clef. The first staff has a key signature of one sharp (F#) and a common time signature. The second staff continues the exercise. The notes are: Staff 1: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5. Staff 2: D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7, D7, E7, F7, G7, A7, B7, C8.

Third Finger

17

Musical exercise 17 for the third finger. It consists of two staves of music in bass clef. The first staff has a key signature of one sharp (F#) and a common time signature. The second staff continues the exercise. The notes are: Staff 1: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5. Staff 2: D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7, D7, E7, F7, G7, A7, B7, C8.

Fourth Finger

18

Musical exercise 18 for the fourth finger. It consists of two staves of music in bass clef. The first staff has a key signature of one sharp (F#) and a common time signature. The second staff continues the exercise. The notes are: Staff 1: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5. Staff 2: D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7, D7, E7, F7, G7, A7, B7, C8.

D. Exercises where Two Fingers Change Place

(The fingers "dance a polka.")

Handwritten musical notation for exercise 19, featuring a bass staff with a treble clef and a key signature of one sharp (F#). The notation includes various chords and intervals, with some notes marked with '2', '3', '4', and '1' in boxes. The exercise is numbered 19 in a circle.

E. Shifting Two Fingers Up and Down Two Strings

(a) Chromatic Major Sixths in Pairs

20

(b) Chromatic Major Sixths

21

(c) Chromatic Perfect 4ths

(22) Musical notation for exercise 22, featuring a bass clef, a key signature of one flat (B-flat), and a series of chords and intervals. Above the staff are fingerings: 1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4.

(d) Augmented 4ths

(23) Augmented 4ths

- -

In this chapter, the student should pay particular attention to everything he has learned before, approaching each individual finger movement not only as a motion by and for itself but as part of a pattern of energetic pickups and placements. It is also advisable to particularly study, as far as possible, the movements D to D#, D to E, D to F, D to F#, and D to G between any two fingers and as transferred to other strings.

VARIATIONS

Variations

3

Musical notation for Exercise No. 3, featuring a treble clef, key signature of one sharp (F#), and a series of eighth notes with fingerings indicated by numbers 1-5 above the staff.

П. В.

Variation

4 

[illegible]

Variation

b)

Exercise b) consists of four staves of music. The first staff begins with a bass clef and a key signature of one flat (B-flat). It contains a sequence of eighth and sixteenth notes, with some measures featuring beamed sixteenth notes. Above the first staff, there is a separate line of music with a treble clef and a key signature of one sharp (F-sharp), showing a sequence of eighth notes. Vertical dashed lines connect the first and second measures of the bass staff to the corresponding measures of the treble staff. The remaining three staves continue the bass line with various rhythmic patterns, including beamed sixteenth notes and eighth notes.

in the same way

a) b)

6

Exercise 6 consists of two parts, a) and b). Part a) is a single staff of music in bass clef with a key signature of one sharp (F-sharp). It features a sequence of eighth notes with a triplet of three eighth notes marked with a '3' above them. Part b) is a single staff of music in bass clef with a key signature of one sharp (F-sharp), featuring a sequence of eighth notes with a triplet of three eighth notes marked with a '3' below them.

a) b)

7

Exercise 7 consists of two parts, a) and b). Part a) is a single staff of music in bass clef with a key signature of one sharp (F-sharp), featuring a sequence of eighth notes with a pair of eighth notes marked with a '2' above them. Part b) is a single staff of music in bass clef with a key signature of one sharp (F-sharp), featuring a sequence of eighth notes with a pair of eighth notes marked with a '2' below them.

a) b)

8

Exercise 8 consists of two parts, a) and b). Part a) is a single staff of music in bass clef with a key signature of one sharp (F-sharp), featuring a sequence of eighth notes with a pair of eighth notes marked with a '1' above them. Part b) is a single staff of music in bass clef with a key signature of one sharp (F-sharp), featuring a sequence of eighth notes with a pair of eighth notes marked with a '1' below them.

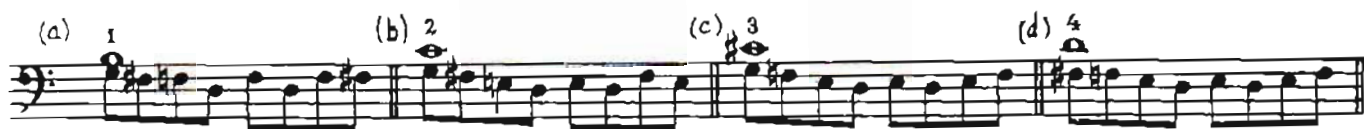
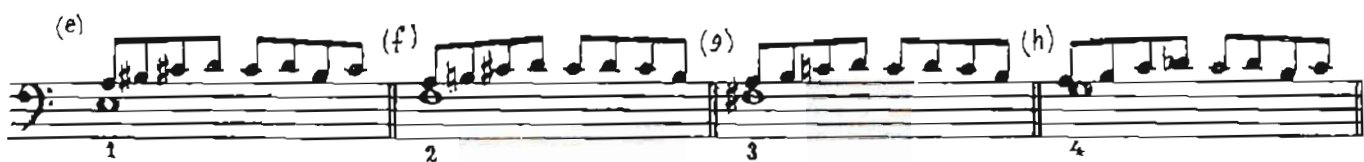
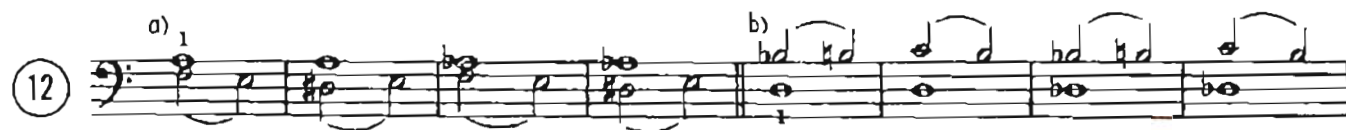
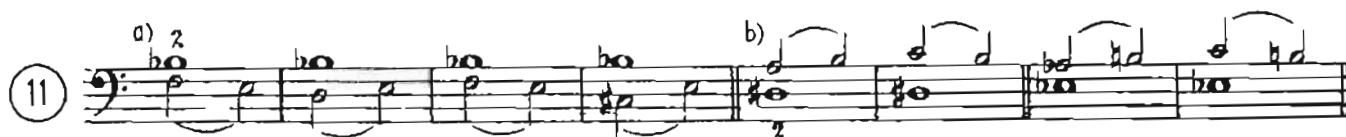
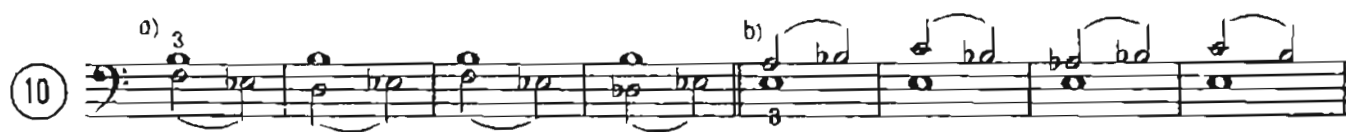
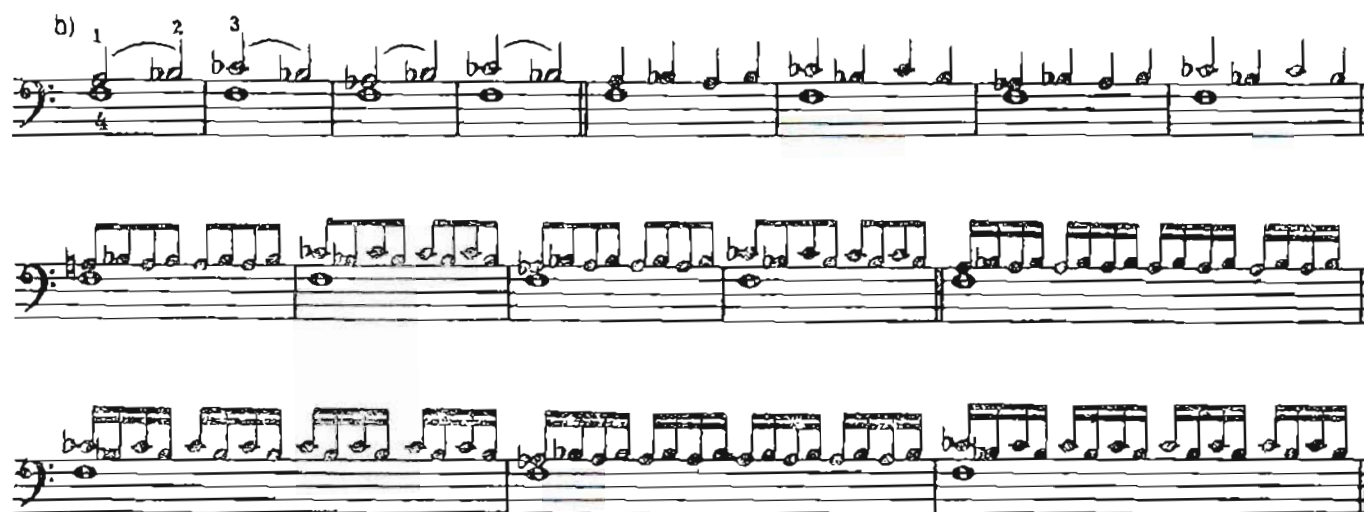
a)

9

Exercise 9 consists of two parts, a) and b). Part a) is a single staff of music in bass clef with a key signature of one sharp (F-sharp), featuring a sequence of eighth notes with a pair of eighth notes marked with a '1' above them. Part b) is a single staff of music in bass clef with a key signature of one sharp (F-sharp), featuring a sequence of eighth notes with a pair of eighth notes marked with a '1' below them.

Exercise 10 is a single staff of music in bass clef with a key signature of one sharp (F-sharp), featuring a sequence of eighth notes with a pair of eighth notes marked with a '1' above them.

Exercise 11 is a single staff of music in bass clef with a key signature of one sharp (F-sharp), featuring a sequence of eighth notes with a pair of eighth notes marked with a '1' above them.



Play each bar several times; afterwards, continuously, without repetitions.

14

a)

b)

POSTSCRIPT

For future study, it will be necessary to acquaint the student with two clefs, the tenor and the treble.

Tenor Clef

Treble Clef

ELEVEN PIECES
FOR CELLO AND PIANO

The cello part for these pieces, bound
into this volume at the end of the book,
may be removed for performance.

NOCTURNE

Adagio

V. cello

Adagio

Piano

p

SOLEMN PRELUDE

Festoso

Festoso

mp quasi arpa

p

MELODY

Andante cantabile

p

Andante cantabile

simile

p

The MELODY section consists of two systems of music. The first system features a single melodic line in the upper staff, marked 'Andante cantabile' and 'p' (piano). The piano accompaniment is in the lower staves, marked 'Andante cantabile' and 'p'. The second system continues the melody and accompaniment, with the piano part featuring a dense, rhythmic texture in the right hand and a more melodic line in the left hand.

DUET

Allegro marcato

f

Allegro marcato

mf

The DUET section consists of two systems of music. The first system features two melodic lines in the upper staves, marked 'Allegro marcato' and 'f' (forte). The piano accompaniment is in the lower staves, marked 'Allegro marcato' and 'mf' (mezzo-forte). The second system continues the duet and accompaniment, with the piano part featuring a dense, rhythmic texture in the right hand and a more melodic line in the left hand.

MINUET

Tempo di minuetto.

mp

Tempo di minuetto

mp

mf

poco rit.

tempo

mp

tempo

poco rit.

mp

pizz.

mf

espr.

The musical score is for a Minuet in G major, 3/4 time. It is written for piano and features a melody in the right hand and a bass line in the left hand. The tempo is marked 'Tempo di minuetto.' and 'Tempo di minuetto'. The key signature is one sharp (F#). The score is divided into four systems. The first system shows the beginning of the piece. The second system shows the middle section. The third system shows the end of the middle section. The fourth system shows the final section, ending with a double bar line. The score includes various musical notations such as notes, rests, and dynamic markings.

ROMANCE

Moderato

The first system of the musical score for 'ROMANCE'. It consists of two staves. The upper staff is in bass clef and contains a single melodic line. The lower staff is in bass clef and contains a complex accompaniment with many beamed eighth notes. A dynamic marking of *mf* is present in the lower staff. The tempo marking 'Moderato' is written above the upper staff.

Piu mosso

The second system of the musical score. It consists of two staves. The upper staff is in bass clef and contains a single melodic line. The lower staff is in bass clef and contains a complex accompaniment with many beamed eighth notes. The tempo marking 'Piu mosso' is written above the upper staff.

The third system of the musical score. It consists of two staves. The upper staff is in bass clef and contains a single melodic line. The lower staff is in bass clef and contains a complex accompaniment with many beamed eighth notes.

The fourth system of the musical score. It consists of two staves. The upper staff is in bass clef and contains a single melodic line. The lower staff is in bass clef and contains a complex accompaniment with many beamed eighth notes.

BASSO CONTINUO

Adagio

First system of musical notation for the Basso Continuo, Adagio section. It consists of three staves: a single bass staff at the top and a grand staff (treble and bass) below. The top staff contains a continuous line of eighth notes. The grand staff contains block chords, with the bass line mirroring the notes of the top staff.

Second system of musical notation for the Basso Continuo, Adagio section. It follows the same three-staff format as the first system, with a single bass staff and a grand staff. The musical notation continues with eighth notes in the top staff and corresponding block chords in the grand staff.

Largo

Third system of musical notation for the Basso Continuo, Largo section. It consists of three staves: a single bass staff at the top and a grand staff (treble and bass) below. The top staff contains a continuous line of eighth notes. The grand staff contains block chords, with the bass line mirroring the notes of the top staff. The system concludes with a double bar line.

SUNNY DAY

Andante

This musical score is for a piece titled "SUNNY DAY" in the tempo of "Andante". It is written for a single melodic line and a piano accompaniment. The key signature has one sharp (F#), and the time signature is common time (C). The score is organized into four systems, each with a single staff and a grand staff (treble and bass clefs). The first system begins with a piano (p) dynamic and includes fingering numbers 2, 3, 5, and 1. The second system features a pizzicato (pizz.) instruction. The third system includes markings for arco (arco) and pizzicato (pizz.). The fourth system concludes with a final pizzicato (pizz.) instruction. The piano accompaniment consists of chords and moving lines in both hands, while the single staff contains a melodic line with various articulations and dynamics.

A FOLK SONG

Adagio cantabile

mp

p

Allegro

Fine

Duet

Molto meno mosso

Da ai Fine

poco rit

SALTARELLO

Allegro vivo

This musical score is for a piece titled "SALTARELLO" in the tempo "Allegro vivo". It is written in 3/4 time and the key of D major, indicated by two sharps (F# and C#) in the key signature. The score is arranged for a single melodic line (likely a violin or flute) and a piano accompaniment (piano and bass staves). The piano part features a rhythmic pattern of eighth and sixteenth notes, often beamed together, providing a steady accompaniment for the melody. The melody itself is characterized by frequent eighth and sixteenth notes, creating a lively and dance-like feel. The score is divided into four systems. The first system includes dynamic markings of *p* (piano) and *pp* (pianissimo). The second and third systems continue the melodic and harmonic development. The fourth system concludes the piece with a *Fine* marking, preceded by a *f* (forte) dynamic and a *mf* (mezzo-forte) marking. The notation includes various musical symbols such as clefs, key signatures, time signatures, notes, rests, and dynamic markings.

First system of musical notation. The vocal line (top staff) begins with a rest, followed by a melodic phrase starting on a half note G4, marked *cant.* and *p*. The piano accompaniment (bottom staves) consists of a steady eighth-note bass line and chords in the right hand, marked *p*.

Second system of musical notation. The vocal line continues with a melodic phrase, marked *p*. The piano accompaniment continues with the same eighth-note bass line and chords, marked *mp*.

Third system of musical notation. The vocal line continues with a melodic phrase, marked *p*. The piano accompaniment continues with the same eighth-note bass line and chords, marked *mf*.

Fourth system of musical notation. The vocal line concludes with a melodic phrase, marked *p*. The piano accompaniment concludes with a melodic phrase, marked *Da* and *al fine*.

THE WIND SCOURING THE FIELDS

Allegro ma ben ritmico

p staccato

pp *f*

This musical score is for a piece titled "THE WIND SCOURING THE FIELDS". The tempo is marked "Allegro ma ben ritmico". The score is written for a single melodic line and a piano accompaniment. The key signature has one sharp (F#), and the time signature is 6/8. The piano part features a prominent, rhythmic accompaniment in the left hand, often consisting of eighth-note patterns, and a more complex, textured right hand with many staccato chords and eighth-note figures. The piece concludes with a final chord marked with a forte (*f*) dynamic, preceded by a piano (*pp*) section.



Extension: Hand in first position

BOOK ONE / PART TWO

The Study of Glissando Shifts, Stretches and Positions

CHAPTER 15

STRETCH AND POSITION CHANGES

The study of stretches and positions serves to achieve the following goals:

1. extension of the compass of the hand in the most natural way;
2. enabling the hand to cope with the most awkward figuration in the most natural manner;
3. the ability to employ relevant changes in tone color wherever musically appropriate;
4. phrasing any passage in the most musical way;
5. the ability to give any passage whatever degree of emotional expression is necessary.

In addition, the study of stretches and positions is one of the fundamental methods of attaining security of fingering. The conventional fingerings are already learned responses by the time the student moves out of first position, and it is only logical, therefore, that he should attempt to play a note in a higher position with the same finger with which he would play it in a lower position. However, such unintelligent and disorganized practicing leads to many difficulties, among which are unnecessary arm and hand movements, distortions in the placement of the hand, possible injury to the muscles and sinews of the hand, and, most seriously, to an insecurity in finger action which must eventually result in inexact intonation.

To prevent these difficulties and to enable the pupil to do most easily what the intention of the music requires him to do, and not what false convenience and technical limitations make him do, the interrelations between positions and stretches should be studied. Only such study will give to the student a complete security in fingering and a confident ease in technique.

Early Concepts of Cello Fingering:

Fingering on the cello was originally taken from the viol and, later, from the violin, where successive fingers were expected to stop whole-tone steps. The consequent awkward hand placements and the loss in ease of fingering and solidity of tone, especially in scale passages, were a distinct barrier to a free and confident technique.

The solution proved to be to build the entire technique of cello playing on the interval comfortably covered by the first and fourth fingers (a major or minor third) on that part of the fingerboard between the pegs and the middle, and on the consequent normal distance of a semitone between two adjacent fingers. This normal arrangement of the component parts of the hand on each string when moved up and down the fingerboard created areas of fingering activity around each semitone which later assumed the name of "positions."

Each position had its own set of fingerings for a diatonic or chromatic scale and, inevitably, a particular finger became gradually associated with a particular semitone in each position until, in many cases, that note, no matter how approached or left, was always played by that finger. Thus, the desired goal of technique largely became adherence to an inconsistent, arbitrary and illogical set of rules rather than ease and naturalness of fingering.

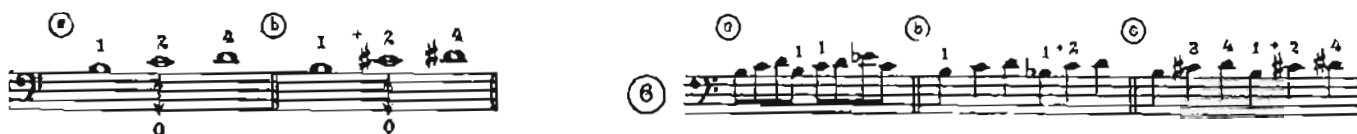
The Problems of Enharmonic Notation:

A further difficulty appeared when little or no account was taken of enharmonics when designating position. Since each position had several enharmonic variations which conflicted with those of neighboring positions in designation, the same problematic passages in hand stretches and placement, when notated enharmonically, could be given *different* position designations and, consequently, *different* fingerings and hand placements. On the other hand, *different* technical problems, if written enharmonically in such ways as to be included under the *same* position designation, could be given the same fingerings. (See Exercises 1 and 2, below.)

The Problems of Hand Movement:

The main difficulty arose when the abstract complexities of position designation were applied to the actual process of moving the hand up and down the fingerboard. What had begun as a necessity in order to clarify fingering processes almost became a game where the emphasis and interest were not on the fundamentals of fingering ease and naturalness of hand placement but, rather, on the choice of fingering through the empty determination of what were valid position changes and what were simple changes in hand stretches and extensions. An inability to consistently define the differences between them only added to the confusion of the situation. Advances in technique were hindered and too many cellists showed the defects in left hand technique that such study engendered.

An Illustration:



The shoals of technical error onto which a misplaced emphasis on definition can lead a student is illustrated in Exercises 1 and 2c, above. Both cases could be considered a change in stretch since the first finger never moves from its place on the fingerboard and the second, third and fourth fingers move to a new placement a half-step further away from the first finger. Since a change in stretch, in theory, does not alter the relationship of the hand unit to the fingerboard, the danger here, of course, is either that the thumb will be shifted tardily to its new placement on the neck opposite the second finger or, worse, will be kept in its previous placement. In either instance, this destroys the ability of the hand to act as an efficient unit and results in an incorrect hand placement, an inaccurate finger touch and, consequently, bad intonation in this open position.

It should be clear from the foregoing that the attainment of a confident technique demands that valid distinctions be made among position changes, changes in stretch and hand extensions. And, in truth, each can be described by the finger axis, arm and hand actions involved.

The Importance of the Second Finger/Thumb Axis:

Since the most efficient use of the left hand revolves around the axis formed by the second finger and the thumb, the determination of a position is dependent on the action of this axis in relation to the areas of activity on the fingerboard. Thus, it follows that a position change is an extension or a relocation of an area of activity in which this axis participates. The finger relationships can change or remain fixed while the forearm and hand move, as in Exercise 2a, above; or the other fingers and thumb, less the first finger, can move and the forearm remain still, as in Exercises 1 and 2c.

Forearm Angle and Motion:

When a position change involves moving the entire forearm and hand up and down the fingerboard, the forearm should be kept at as close to a right angle as possible to the fingerboard, no matter in what position, with the elbow being used as the fulcrum about which the forearm revolves. After the elbow and forearm stop moving, the fingers assume their correct relationships to one another and to the fingerboard itself. As the student advances into the higher positions, the elasticity of the shoulder enables the forearm to advance down the fingerboard at the correct angle.

A change in stretch, as in Exercise 2b, is an extension within a position and is concerned with changes in finger relationships and hand placement. It should be emphasized, however, that the second finger/thumb axis does not move. We employ stretch changes to stay in the same position as long as possible when an actual change would be inconvenient or inappropriate, or in order not to create extraneous sounds caused by shifting the finger on the string.

Hand Extensions:

The technique of hand extension combines elements of the other two changing methods and can be interpreted as *employing* a stretch change to encompass a position change without using shifts or glissandos. Generally, this is possible only for players with a large hand, since it demands that the first and fourth fingers extend a semitone or whole tone from the body of the hand, which remains still. It is used only in sequences of four or more notes or in leaps encompassing more than a major third, as in arpeggios, scale passages or rapid figurations on one string.

A Final Word:

The preceding text can be summarized in the following way: What should determine the fingering of a particular passage is ease and naturalness of approach and musical effect and not blind adherence to any set of rules. When this has been understood and the significance of the following exercises has been revealed by thorough practicing in a technically correct manner, the student will have received the technical preparation necessary for the study of three finger stretches in the higher positions.

THE GLISSANDO (OR SLIDE)

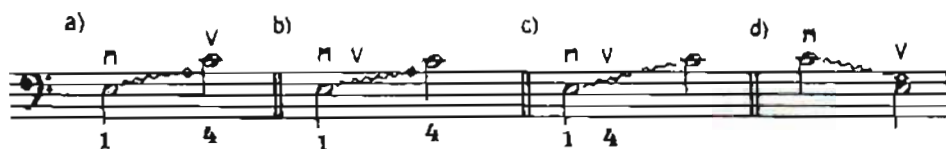
The glissando is achieved by lightly sliding a particular finger of the left hand over a particular string as it is bowed, using only enough force to barely allow the string to touch the fingerboard. The glissando not only serves as an important means of tying tones together but is also a technical device useful in facilitating position changes, making it possible to control the leaping distance that a particular finger travels between two positions. One could even say that good intonation practices, when changing position, can only be acquired through the aid of the glissando.

During the glissando's execution, the string must not be pressed too hard for such an action would act as a brake on finger movement and make the transitions from tone to tone seem to proceed in fits and starts. Instead, at the moment of the transition's beginning, string pressure is lessened and then is increased again immediately before the aimed-for note.

The glissando may be a rising figure from a lower to a higher position, or conversely, it may be a falling one from higher to lower.

The rising glissando is performed in two ways, as illustrated in examples (a), (b) and (c), below: First, as a "starting" glissando by the leading finger that plays the tone from which we start; or, second, as an "ending" glissando by the landing finger that plays the tone to which we proceed. The "starting" glissando may be played on one bow, that of the first note, as in example (a); or on two bows, as in example (b): here, the first note is attacked on the first bow and the glissando is executed on the second bow which also serves for the aimed-for note. The "ending" glissando may be played only on two bows with the second serving for the execution of the shift as well as to hide its sound; this is shown in example (c).

The falling glissando can only be performed as a "starting" glissando on one bow, as in example (d).



(see illustration, p.68)

At first, in order to strengthen the fingers and enable them to perform glissandi correctly, all fingers (other than the shifting finger) that are normally on a string when playing a note should be raised but kept in the same relationship to each other during the shift to the following note. After the student has attained a certain facility in performing a shift, the fingers behind the shifting finger can be kept on the string but at diminished pressure. During the shift, however, full pressure must be kept against the string by the bow. During the shifting period, the fingers also, of course, shift into the new relationships required by the new position, the distances between fingers being smaller in the higher positions than in the lower ones.

The glissando is regularly performed toward the end of the first note in a position shift, thereby shortening its written duration because the second note must be played exactly at its intended place in the measure. In order that one should not fall into the habit of shortening the first note too much, the glissando shift should first be played in as slow a tempo as needed to produce the correct durational values for the first note, the glissando, and the second note. As the pupil attains more facility, a shorter and shorter glissando should be attempted until such security is achieved that the position shift, a flexible glissando, and a release of bow pressure against the string during its production, all can be performed at any specified tempo in a manner that meets all methodical requirements.

All shifts are to be practiced with a full tone and distinct changes of bow. However, do not permit left-hand problems to adversely influence right hand facility, or allow the arm, elbow and hand-axis movements necessary for position changes to become confused with the finger actions within a position itself. As a preliminary exercise to the following chapters, the exercise below should be performed with the cited fingerings.

TRANSITIONS

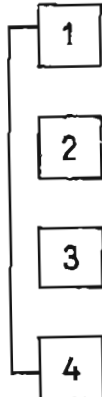
The diagram illustrates three examples of transitions (1, 2, and 3) with fingerings and bowing directions (n v, b) n v). Example 1 shows a shift from position 1 to 2. Example 2 shows a shift from position 2 to 1. Example 3 shows a shift from position 1 to 2. The fingerings are indicated by numbers 1-4 in boxes. A 'Pizz.' marking is present above the second example.

Illustrating Examples a), b) and c), page 67

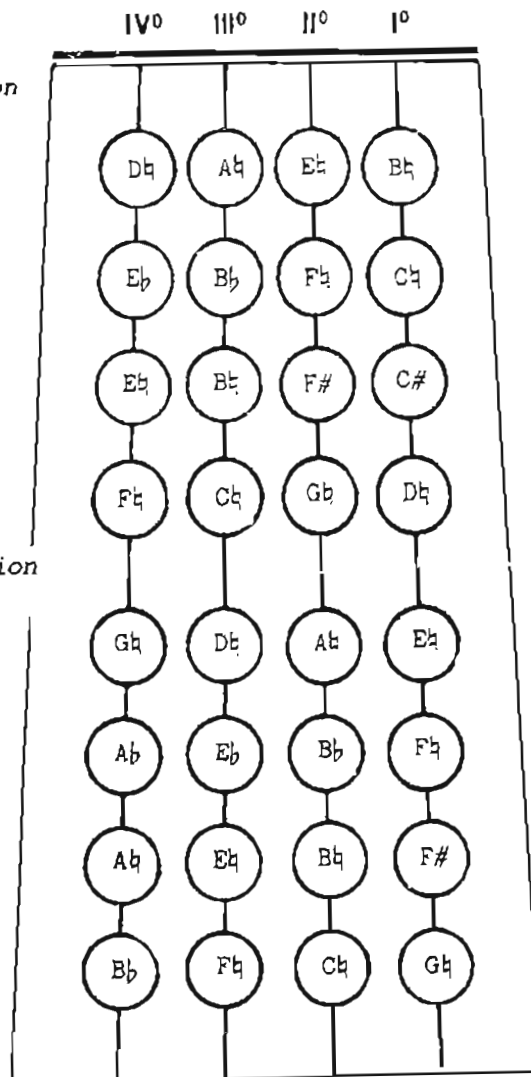
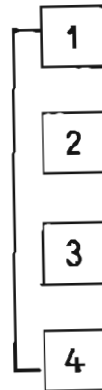


SHIFTING FROM THE FIRST TO THE FOURTH POSITION BY MEANS OF AN OPEN STRING

Close First Position
- Finger -



Close Fourth Position
- Finger -



enharmonically

D♭	A♭	F♭	C♭
D#	A#	F♯	C♯
E♭	B♭	G♭	D♭
E#	B#	G♯	D♯
G♭	D♭	A♭	F♭
G#	D#	A#	F♯
A♭	E♭	B♭	G♭
A#	E#	B#	G♯

In the following exercises, only the specified fingers drop upon the string in a "leaping" effect. The other fingers remain in the air above their specified places on the fingerboard. As the return to the open string is played in each sequence, the thumb slides along the neck together with the other fingers preparatory to playing the next note. When dropping the first and fourth fingers, the student should make sure that the forearm muscles do not participate in the action; the fingers should be exclusively moved by their own muscles. Also, the student should continuously bear in mind the differences in stretch distance between the fingers in the first and fourth positions.

The exercises are as follows:

- Exercise 1:** A sequence of notes on a bass clef staff. Above the staff, fingerings are indicated in boxes: [1], [1], [2], [2], [3], [3], [4], [4]. Below the staff, a circled 'v' and a double bar line with a degree symbol are present.
- Exercise 2:** A sequence of notes with fingerings 1, 1, 2, 2, 3, 3, 4, 4. The word "simile" is written above the first note.
- Exercise 3:** A sequence of notes with fingerings 1, 1, 2, 2, 3, 3, 4, 4.
- Exercise 4:** A sequence of notes with fingerings 1, 1, 2, 2, 3, 3, 4, 4.
- Exercise 5:** A sequence of notes with fingerings 2, 1, 2, 3, 3, 4, 4. The word "simile" is written above the first note. Below the staff, there are fractional markings: $\frac{1}{1}$, $\frac{1}{2}$, $\frac{1}{2}$, $\frac{1}{1}$, $\frac{1}{1}$, $\frac{1}{2}$, $\frac{1}{1}$, $\frac{1}{1}$, $\frac{1}{2}$, $\frac{1}{1}$.
- Exercise 6:** A sequence of notes with fingerings 2, 2, 3, 3, 4, 4.

SHIFTING FROM THE FIRST TO THE FOURTH POSITION BY MEANS OF THE GLISSANDO

A. Finishing the Shift with the Same Finger

In the following exercises, finger pressure is decreased immediately before the shift, but only to the point where slight contact is still made between the string and the fingerboard. The finger, continuously employing the same degree of weak pressure as it slides over the string to its new position, should feel both comparatively weightless yet dynamically vibrant. At the moment the finger reaches its new position, pressure is again applied to the string with that degree of force necessary to produce a full tone.

1 *simile*

2

3

4

5

gliss.

110 1 — 4 2 — 1

At first, these exercises should be performed upon the second string since it is the one best suited for easy assimilation of the techniques involved. In addition, practicing them and the variation above, plus all subsequent glissando exercises on all strings, as shown below, will enable the student to derive their maximum benefits more easily.

B. Shifts Employing Different Fingers

Shifting from a Lower Finger in the Lower Position to an Upper Finger in the Higher Position, and Vice Versa:

In a rising glissando, immediately before the lower finger, sliding from its lower position, arrives at its place in the higher position, the upper finger percussively drops upon its assigned place next to it and, thus, interrupts the glissando.

In a falling glissando, immediately before the sliding upper finger, in its upper position, has arrived at its place in the lower position, it leaves the string, and leaps into the air, thus interrupting its glissando with a weak pizz+, as the lower finger drops precisely and perpendicularly upon its assigned place next to it.

The small, diamond shaped "neighboring" notes in the exercises below are the normal notes upon which the particular shifting fingers involved would fall in the position toward which the hand is moving. They serve as a concrete, convenient aiming point to accurately determine the new position.

Exercise 6: 1-1, 2-2

Exercise 7: 1-1, 3-3

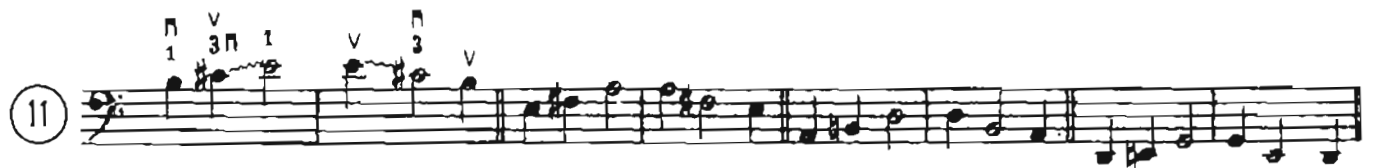
Exercise 8: 1-1, 4-4

Exercise 9: 2-2, 4-4

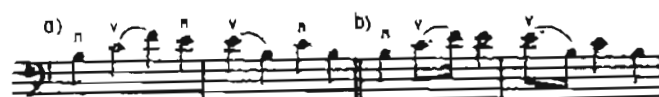
Shifting from an Upper Finger in the Lower Position to a Lower Finger in the Higher Position, and Vice Versa:

In a rising glissando, immediately before the lower finger, sliding from its lower position, arrives at its place in the higher position, the upper finger (whose pressure on the string has been gradually decreased from the beginning of the lower-finger slide) leaves the string and leaps into the air, thus interrupting the lower finger's glissando with a weak pizz+.

In a falling glissando, when the lower finger, sliding from its upper position, reaches and then passes the aimed-for note's place on the fingerboard, the upper finger (which has been poised in the air) drops perpendicularly and percussively upon that place, thus interrupting the lower finger's glissando. At the same time all of the fingers lower than the percussive finger (not only the sliding one), fall into the normal pattern required by the new position. When this is done at a high enough speed, the lower neighboring note is not heard.



All of the exercises above should be performed with the following variations:



CHAPTER 19

THE SIXTEEN POSSIBLE GLISSANDI ON ONE STRING
WHEN SHIFTING FROM THE FIRST TO THE FOURTH POSITION

Play the following exercises so that each one begins with the appropriate figure in first position, and then shifts successively to those figures under letters A, B, C, and D immediately following on the same staff.

For preliminary study, however, the exercises should be practiced in the variations below, the shifts being performed during the rests tacked on to the last note of the figure in first position.

Exercise 1: A single staff with a treble clef and key signature of one sharp (F#). It contains four measures. The first measure is a rest. The second measure is labeled '1' and contains a glissandi figure. The third measure is labeled 'A' and contains a glissandi figure. The fourth measure is labeled 'B' and contains a glissandi figure. The fifth measure is labeled 'C' and contains a glissandi figure. The sixth measure is labeled 'D' and contains a glissandi figure. The seventh measure is a rest.

Exercise 2: A single staff with a treble clef and key signature of one sharp (F#). It contains four measures. The first measure is a rest. The second measure is labeled '1' and contains a glissandi figure. The third measure is labeled 'A' and contains a glissandi figure. The fourth measure is labeled 'B' and contains a glissandi figure. The fifth measure is labeled 'C' and contains a glissandi figure. The sixth measure is labeled 'D' and contains a glissandi figure. The seventh measure is a rest.

Exercise 3: A single staff with a treble clef and key signature of one sharp (F#). It contains four measures. The first measure is a rest. The second measure is labeled '1' and contains a glissandi figure. The third measure is labeled 'A' and contains a glissandi figure. The fourth measure is labeled 'B' and contains a glissandi figure. The fifth measure is labeled 'C' and contains a glissandi figure. The sixth measure is labeled 'D' and contains a glissandi figure. The seventh measure is a rest.

Exercise 4: A single staff with a treble clef and key signature of one sharp (F#). It contains four measures. The first measure is a rest. The second measure is labeled '1' and contains a glissandi figure. The third measure is labeled 'A' and contains a glissandi figure. The fourth measure is labeled 'B' and contains a glissandi figure. The fifth measure is labeled 'C' and contains a glissandi figure. The sixth measure is labeled 'D' and contains a glissandi figure. The seventh measure is a rest.

Variation

A single staff with a treble clef and key signature of one sharp (F#). It contains two measures. The first measure is a rest. The second measure is labeled '1' and contains a glissandi figure. The third measure is labeled 'A' and contains a glissandi figure. The fourth measure is labeled 'B' and contains a glissandi figure. The fifth measure is labeled 'C' and contains a glissandi figure. The sixth measure is labeled 'D' and contains a glissandi figure. The seventh measure is a rest.

Exercise 1: A single staff with a treble clef and key signature of one sharp (F#). It contains four measures. The first measure is a rest. The second measure is labeled '1' and contains a glissandi figure. The third measure is labeled 'A' and contains a glissandi figure. The fourth measure is labeled 'B' and contains a glissandi figure. The fifth measure is labeled 'C' and contains a glissandi figure. The sixth measure is a rest.

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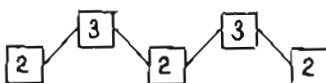
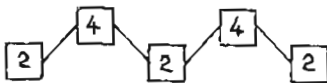
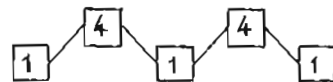
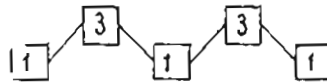
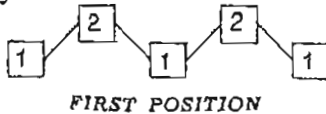
CHAPTER 20

EXERCISES FOR ELBOW FLEXIBILITY USING FIRST TO-FOURTH POSITION GLISSANDO SHIFTS

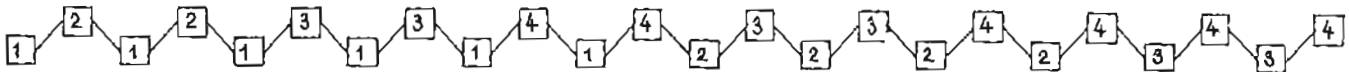
These exercises should be performed without pausing on any part of the string, using continuous alternating glissandi and percussive movements. Particular attention should be paid to the perpendicular fall of the fingers and to the release and reapplication of finger pressure. These exercises are also valid for all other position changes.

A

gliss. **FOURTH POSITION**



B



CHAPTER 21

EXERCISES FOR CORRECT FINGER POSTURE DURING POSITION SHIFTS

In the following exercises, special care must be taken to preserve the perpendicular posture of the fingers as the shift from first to fourth position is accomplished, with extra attention paid to the distances between fingers two and three in either position. Visually, the inner side of the forearm and the first finger form a straight line. During the shift, the lever formed in this fashion must never be bent at the wrist.

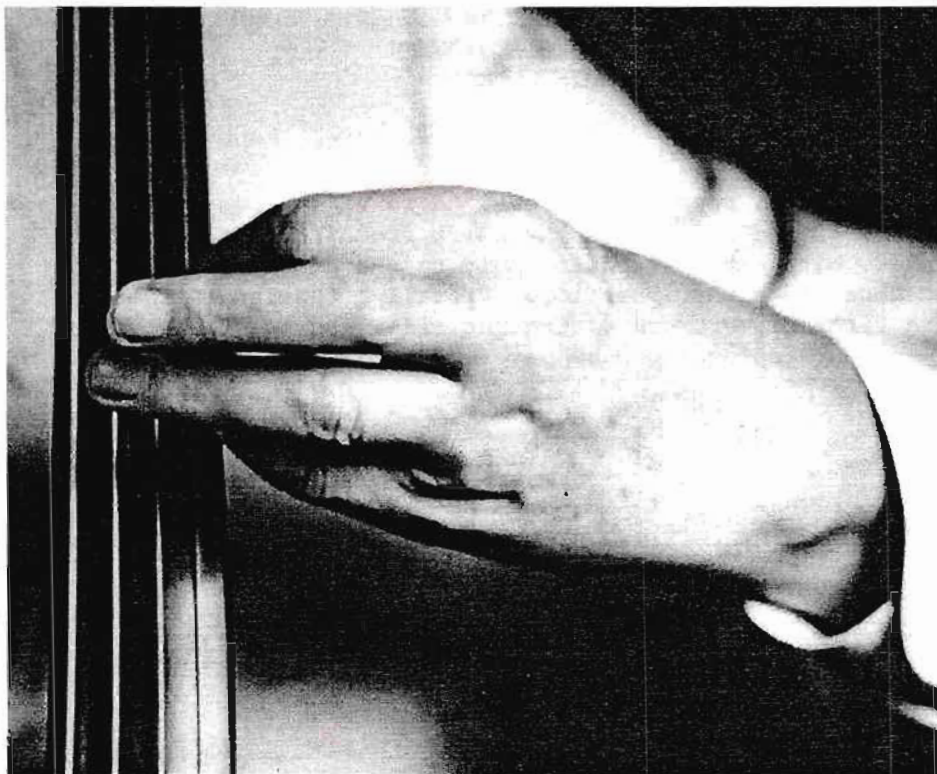


x1: From this point on, the second and third fingers must remain poised in the air, in order not to interfere with the sliding finger.

x2: At this point, the fourth finger must drop perpendicularly upon the string.

x3: After the first finger slides back to its first-position E, the third and fourth finger must be sure to drop simultaneously and perpendicularly upon the string.

The two stages of shifts:
First stage (x1, page 75)

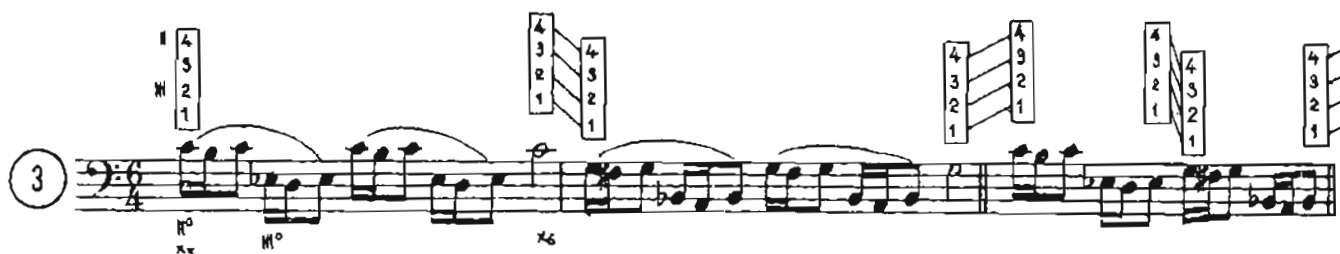


The two stages of shifts:
Second stage (x2, page 76)

(For an illustration of x3, page 76,
see the photograph preceding page 4:
"Stretch and distances in the first
position.")



x4: The specified fingers must drop firmly,
perpendicularly and simultaneously upon
the string. The student should be con-
tinuously aware of the distances be-
tween the second and third fingers.



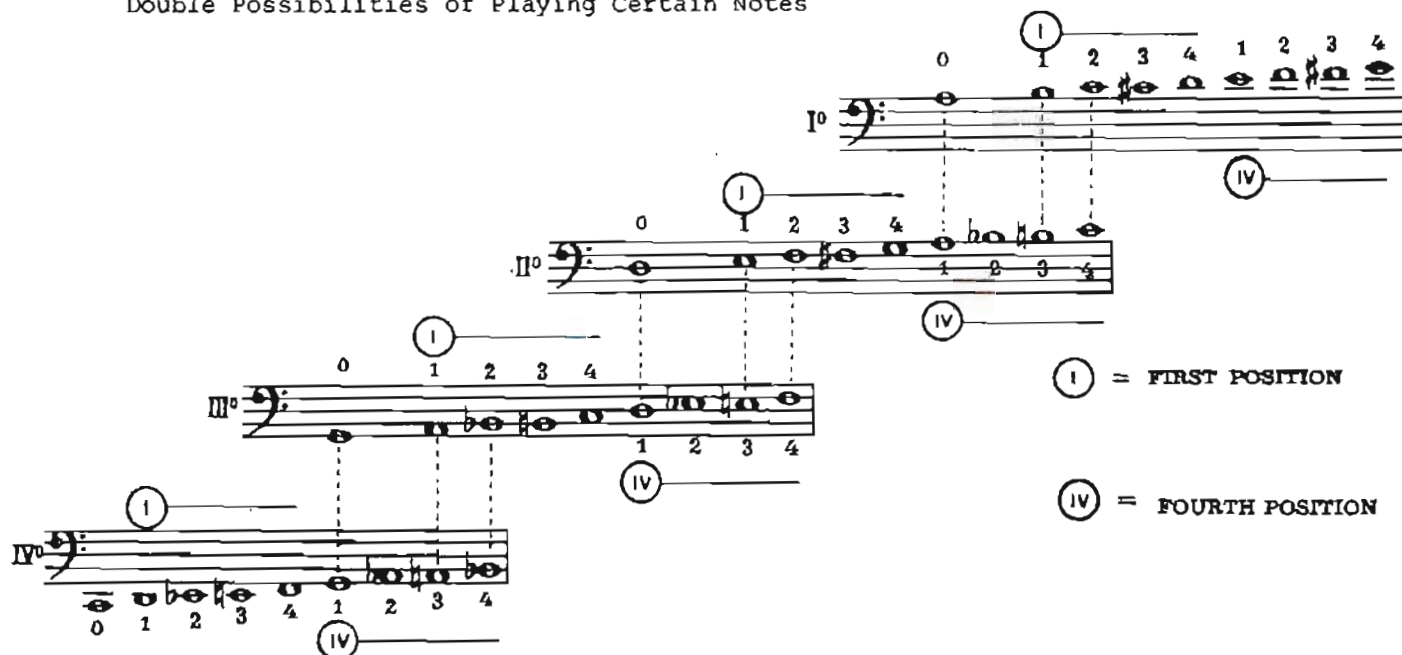
x5: At this point all fingers must remain
upon the string for as long a period
as possible.

x6: All four fingers must participate in
the glissando. Particular attention
must be paid to the varying distance
relationships among the fingers when
shifting position.



RELATIONSHIPS BETWEEN THE FIRST AND FOURTH POSITIONS

Double Possibilities of Playing Certain Notes



THE HALF POSITION

Though the half position has the widest stretches of any position on the fingerboard - because it is the one where the hand is nearest the scroll - the hand is placed on the fingerboard with the fingers in the same relation to each other as in the first position but a half-step lower.

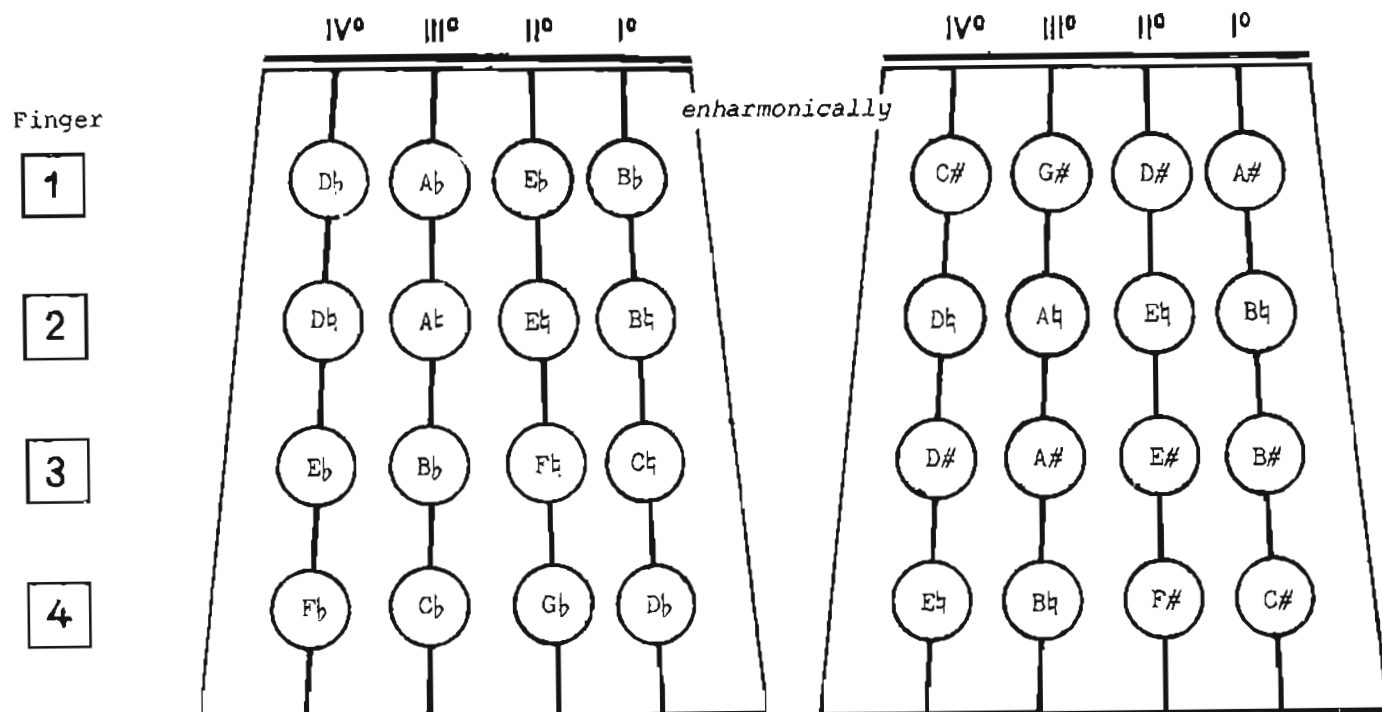
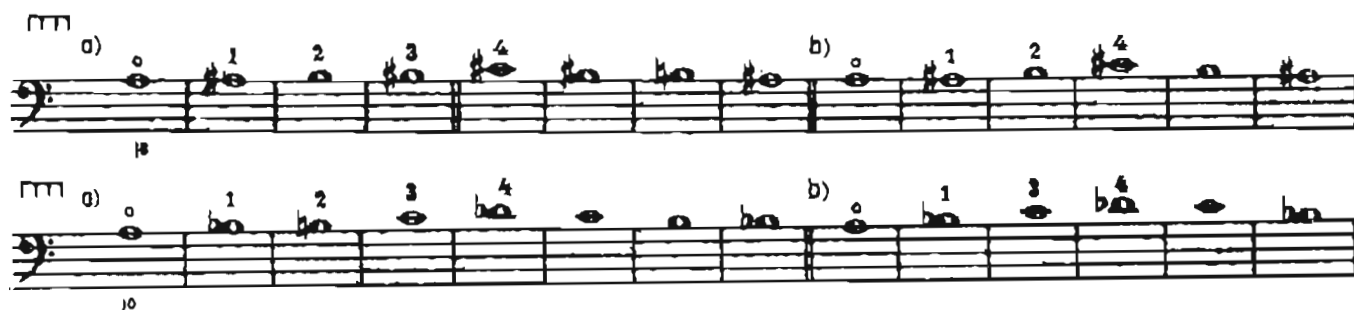


Table of Enharmonic Equivalent Fingerings
for Each String



The image contains three musical exercises for the violin, labeled 1, 2, and 3. Exercise 1 is a single staff in G major (one sharp) with a key signature of one sharp (F#). It consists of two measures, each with a slur over four eighth notes. The first measure starts on G4 and the second on A4. Exercise 2 is a single staff in G major, consisting of two measures. The first measure has a slur over four eighth notes starting on G4, and the second measure has a slur over four eighth notes starting on A4. Exercise 3 is a single staff in G major, consisting of two measures. The first measure has a slur over four eighth notes starting on G4, and the second measure has a slur over four eighth notes starting on A4. Exercise 1 is marked with a circled '1' and a 'V' with a 'II' below it. Exercise 2 is marked with a circled '2' and a 'V' with a 'II' below it. Exercise 3 is marked with a circled '3' and a 'V' with a 'II' below it.

CHAPTER 23

THE FIRST AND THE RAISED (OR EXTENDED) FIRST POSITIONS

These positions include some of the more difficult and troublesome of the ordinary stretches (that is, up to a whole tone) on the finger-board. One must be careful not to injure any portion of the hand - especially the tendons between the first and second fingers - in placing the first finger on the string. The smaller and more delicate the hand, the greater the danger. One must be patient and know that it will take time for the first finger to adjust to this stretch.

A. The Close and Open First Positions

It must be emphasized that if the first finger moves, it should move away from the second finger/thumb axis and not the reverse since this would set the hand into an awkward placement. By placing the hand in the close first position and stretching the first finger a half-step back, the hand is in the diminished first position. In so doing, the first finger should be straight and not curved. The thumb does not change placement.

Close First Position

IV^o III^o II^o I^o

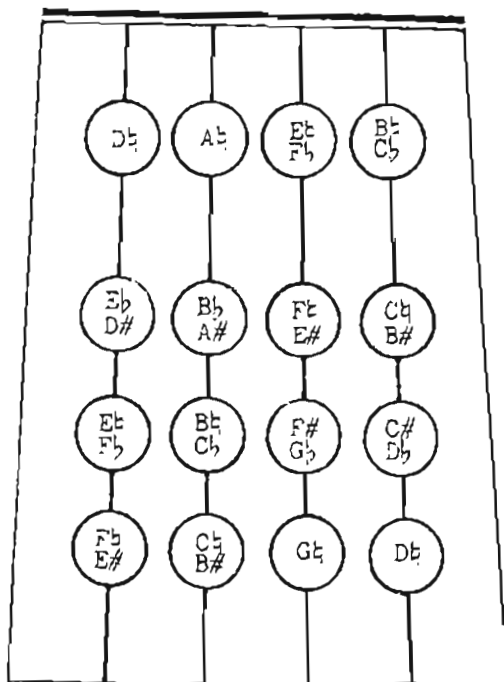
Finger

1

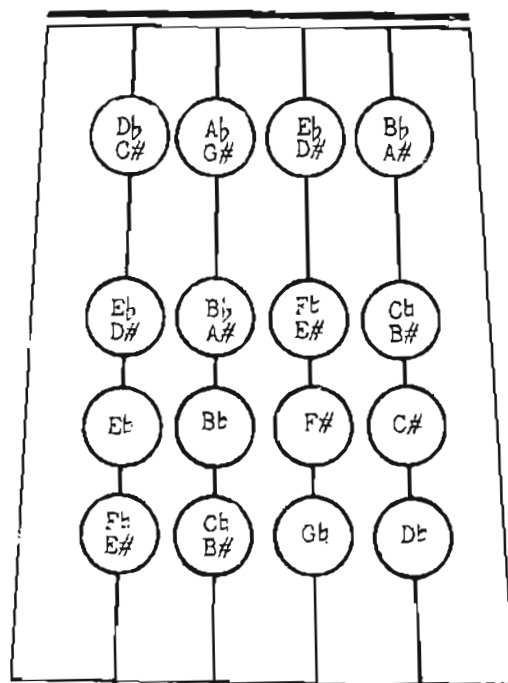
2

3

4



Open First Position

IV^o III^o II^o I^oTable of Enharmonic Equivalent Fingerings
for Each String

Close First Position



Open First Position



—

Close First Position

IV^o III^o II^o I^o

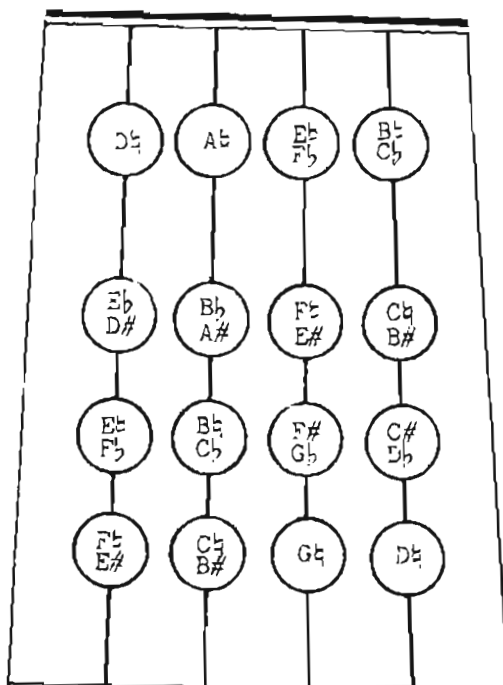
Finger

1

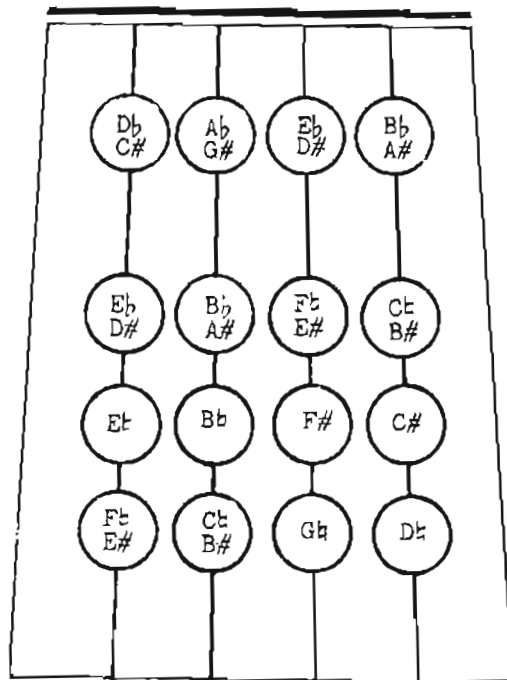
2

3

4



Open First Position

IV^o III^o II^o I^oTable of Enharmonic Equivalent Fingerings
for Each String

Close First Position

Musical notation for Close First Position showing enharmonic equivalents for strings I-IV. The notation is presented in two staves (treble and bass clef) across four measures, each representing a string.

String	I ^o enharmonically	II ^o	III ^o	IV ^o
String I (Treble)	D ^b , C [#] , D ^b , C [#]	E ^b , D [#] , E ^b , D [#]	F ^b , E [#] , F ^b , E [#]	G ^b , F [#] , G ^b , F [#]
String II (D)	E ^b , D [#] , E ^b , D [#]	F ^b , E [#] , F ^b , E [#]	G ^b , F [#] , G ^b , F [#]	A ^b , G [#] , A ^b , G [#]
String III (G)	F ^b , E [#] , F ^b , E [#]	G ^b , F [#] , G ^b , F [#]	A ^b , G [#] , A ^b , G [#]	B ^b , A [#] , B ^b , A [#]
String IV (Bass)	G ^b , F [#] , G ^b , F [#]	A ^b , G [#] , A ^b , G [#]	B ^b , A [#] , B ^b , A [#]	C ^b , B [#] , C ^b , B [#]

Open First Position

Musical notation for Open First Position showing enharmonic equivalents for strings I-IV. The notation is presented in two staves (treble and bass clef) across four measures, each representing a string.

String	I ^o	II ^o	III ^o	IV ^o
String I (Treble)	D ^b , C [#] , D ^b , C [#]	E ^b , D [#] , E ^b , D [#]	F ^b , E [#] , F ^b , E [#]	G ^b , F [#] , G ^b , F [#]
String II (D)	E ^b , D [#] , E ^b , D [#]	F ^b , E [#] , F ^b , E [#]	G ^b , F [#] , G ^b , F [#]	A ^b , G [#] , A ^b , G [#]
String III (G)	F ^b , E [#] , F ^b , E [#]	G ^b , F [#] , G ^b , F [#]	A ^b , G [#] , A ^b , G [#]	B ^b , A [#] , B ^b , A [#]
String IV (Bass)	G ^b , F [#] , G ^b , F [#]	A ^b , G [#] , A ^b , G [#]	B ^b , A [#] , B ^b , A [#]	C ^b , B [#] , C ^b , B [#]

Handwritten musical notation for a piece in 3/4 time. The notation is on a single staff with a treble clef. It consists of a sequence of eighth and sixteenth notes, with some notes beamed together. There are four measures in total. Above the staff, there are four boxes containing the numbers 2, 1, 3, and 4, which likely correspond to the measures. Below the staff, there are some handwritten notes and symbols, including "1 0 1 0" and "m".

g) h)

B. The Raised or Extended First Position

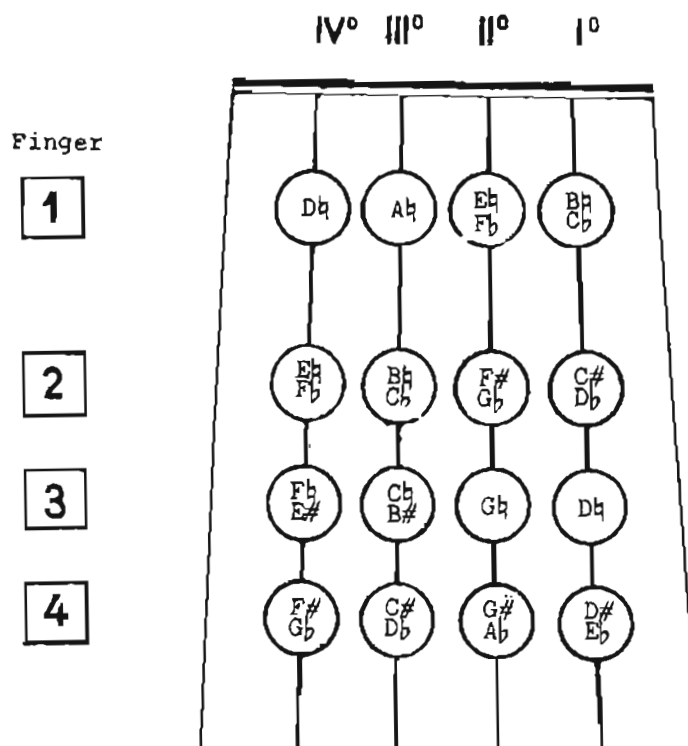


Table of Enharmonic Equivalent Fingerings for Each String

1 + 2	3	4	1 + 2	3	4	1 + 2	3	4	1 + 2	3	4
<p>I^o enharmonically</p> <p>I^o 1 + 2 3 4</p>											
<p>II^o 1 + 2 3 4</p> <p>III^o 1 + 2 3 4</p> <p>IV^o 1 + 2 3 4</p>											

5

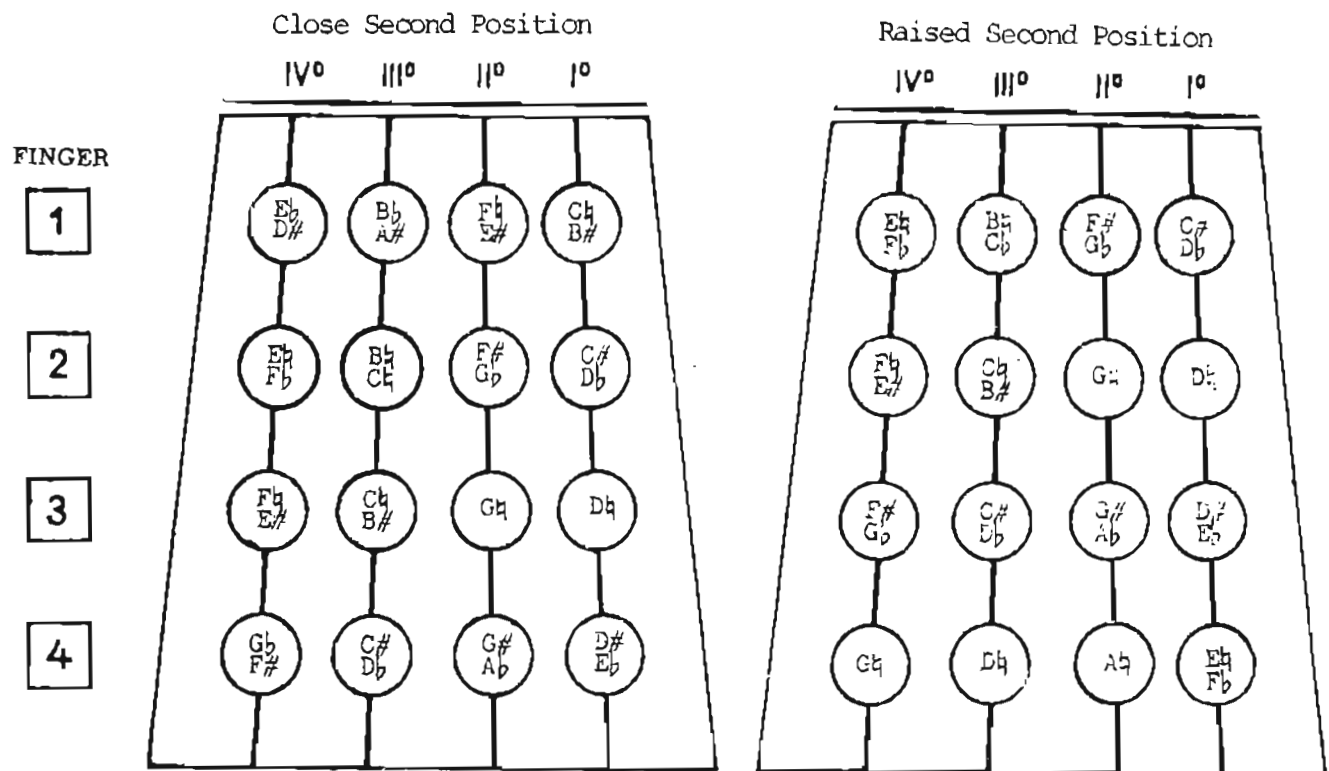
6

a) 4 +8 4 +4 b) 4 +2 3 3 4 +2

c) 4 2 3 +2 3 3 4 +2 4 3

IV

THE CLOSE AND THE RAISED (OR EXTENDED) SECOND POSITIONS

Table of Enharmonic Equivalent Fingerings
for Each String

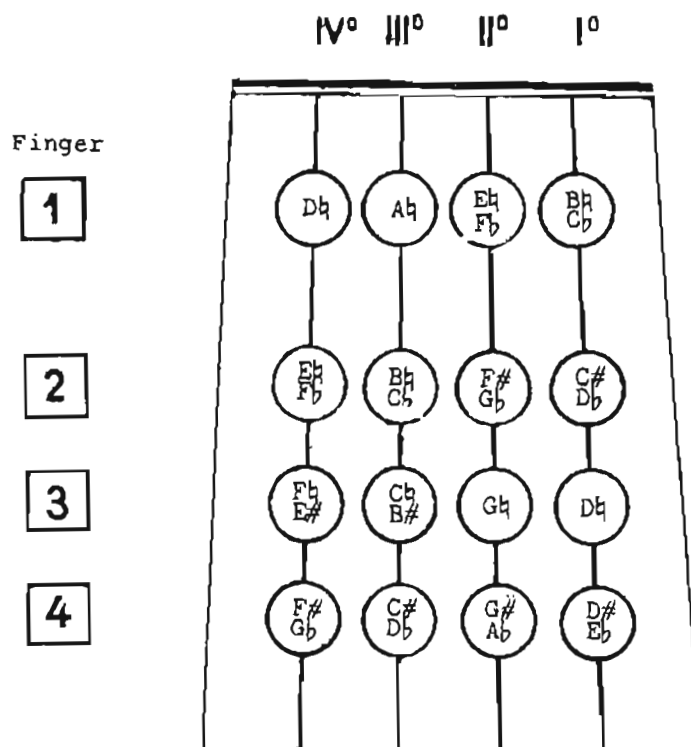
Close Second Position

Close Second Position musical notation showing enharmonic equivalents for strings I, II, III, and IV. The notation is presented in two staves (treble and bass clef) for each string position. The first staff shows the natural notes, and the second staff shows the enharmonic equivalents. The positions are labeled I^o, II^o, III^o, and IV^o.

Raised Second Position

Raised Second Position musical notation showing enharmonic equivalents for strings I, II, III, and IV. The notation is presented in two staves (treble and bass clef) for each string position. The first staff shows the natural notes, and the second staff shows the enharmonic equivalents. The positions are labeled I^o, II^o, III^o, and IV^o.

B. The Raised or Extended First Position

Table of Enharmonic Equivalent Fingerings
for Each String

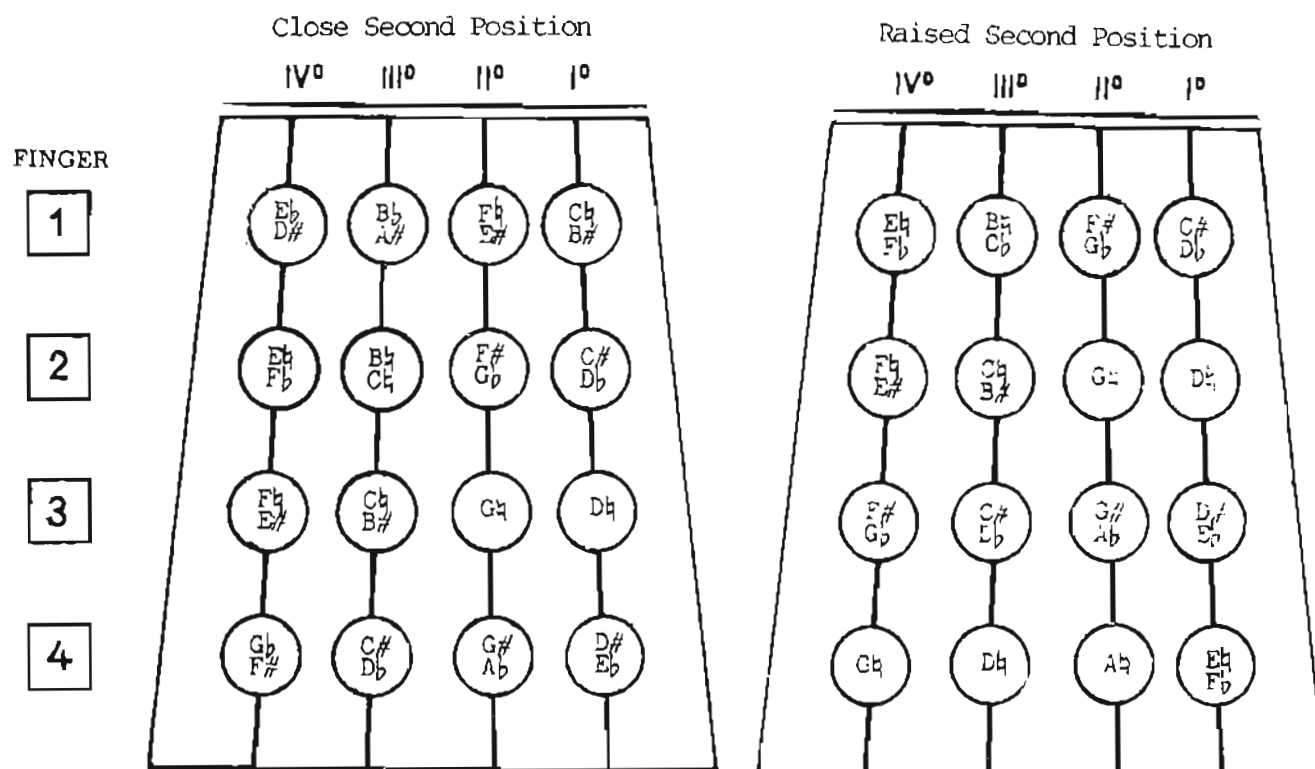
1 - 2	3	4	1 + 2	3	4	1 + 2	3	4	1 + 2	3	4
<p>I^o enharmonically</p> <p>1 + 2 3 4</p> <p>I^o 1 + 2 3 4</p>											

5

6

7

THE CLOSE AND THE RAISED (OR EXTENDED) SECOND POSITIONS

Table of Enharmonic Equivalent Fingerings
for Each String

Close Second Position

Diagram showing Close Second Position fingerings for the four strings (I, II, III, IV) in both standard and enharmonic equivalent forms. The diagram is organized into four columns corresponding to the strings. Each column shows the standard fingering (I, II, III, IV) and the enharmonic equivalent fingering (I, II, III, IV) for the four strings.

String	Standard Fingering	Enharmonic Equivalent Fingering
I	I ^o	I ^o
II	II ^o	II ^o
III	III ^o	III ^o
IV	IV ^o	IV ^o

Raised Second Position

Diagram showing Raised Second Position fingerings for the four strings (I, II, III, IV) in both standard and enharmonic equivalent forms. The diagram is organized into four columns corresponding to the strings. Each column shows the standard fingering (I, II, III, IV) and the enharmonic equivalent fingering (I, II, III, IV) for the four strings.

String	Standard Fingering	Enharmonic Equivalent Fingering
I	I ^o	I ^o
II	II ^o	II ^o
III	III ^o	III ^o
IV	IV ^o	IV ^o

2

II° III°

IV° I°

3

I° II°

III° IV°

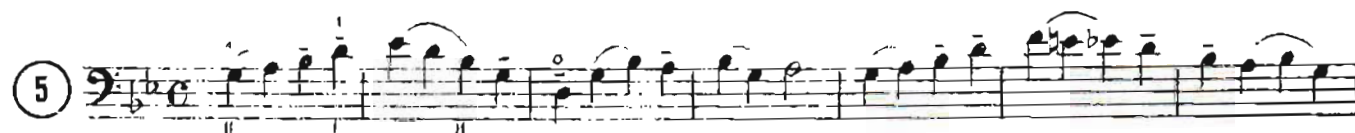
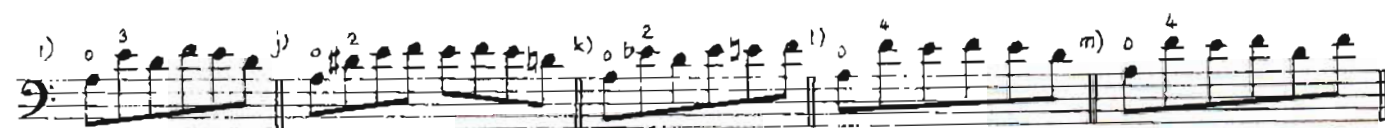
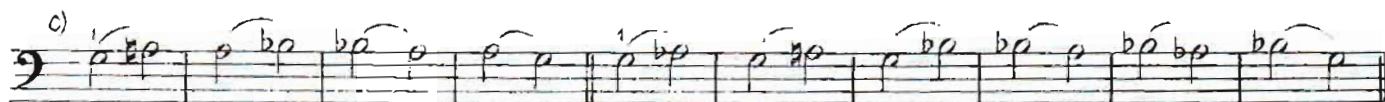
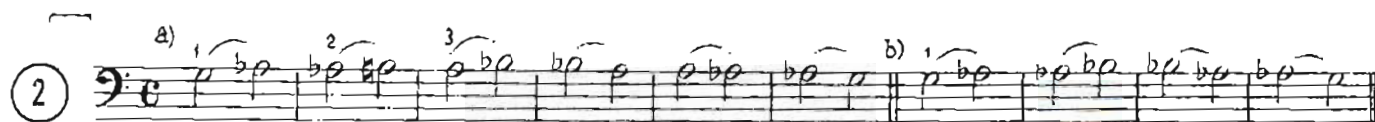


THE CLOSE AND RAISED (OR EXTENDED) THIRD POSITIONS

A. The Close Third Position

	IV ^o	III ^o	II ^o	I ^o
Finger				
1	F \sharp E \sharp	C \flat B \sharp	G \flat	D \flat
2	G \flat F \sharp	D \flat C \sharp	A \flat G \sharp	E \flat D \sharp
3	G \flat	D \flat	A \flat	E \flat
4	A \flat G \sharp	E \flat D \sharp	B \flat A \sharp	F \flat E \sharp

Table of Enharmonic Equivalent Fingerings
for Each String



B. The Raised or Extended Third Position

Diagram illustrating a 4-finger scale on a fretboard. The fretboard is divided into four rows, each corresponding to a finger (1, 2, 3, 4). The fretboard is labeled with fret numbers (IV°, III°, II°, I°) and finger numbers (1, 2, 3, 4). The notes are arranged in a grid:

Finger	IV°	III°	II°	I°
1	F# Gb	C# Db	G# Ab	D# Eb
2	Gb Ab	Db Eb	Ab Bb	Eb Fb
3	Ab Bb	Eb Fb	Bb Cb	Fb Gb
4	Bb Cb	Fb Gb	Cb Db	Gb Ab

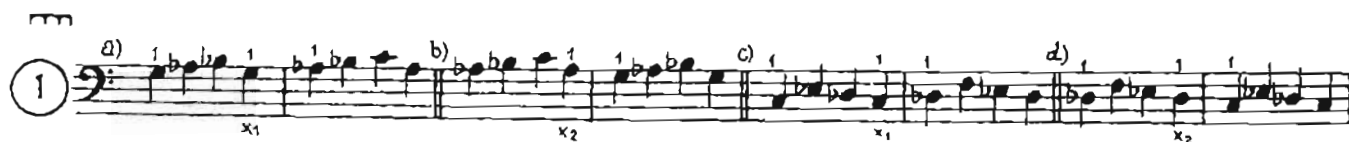
Table of Enharmonic Equivalent Fingerings for Each String

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CHAPTER 26

SHIFTING FROM THE CLOSE THIRD
TO THE OPEN FOURTH POSITION AND BACK AGAIN

A. Shifting Position while Alternately Expanding
and Contracting Stretches



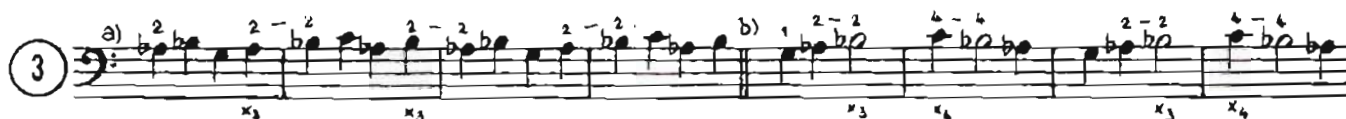
x1: While the first finger is shifting up a semitone, the other fingers, with a quick and elastic movement, also move upward a whole tone above their original position.

At x2, the entire process is reversed.

B. A Preparatory Exercise for a Whole-Tone Shift
without Expanding the Stretch between the First and Second Fingers



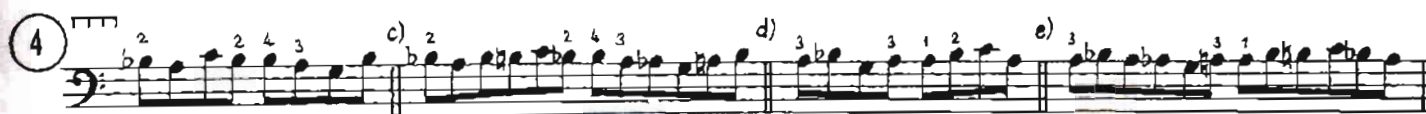
C. Expanding the Stretch between the First and Second Fingers
while Alternately Shifting the Second and Fourth Fingers a Whole Tone



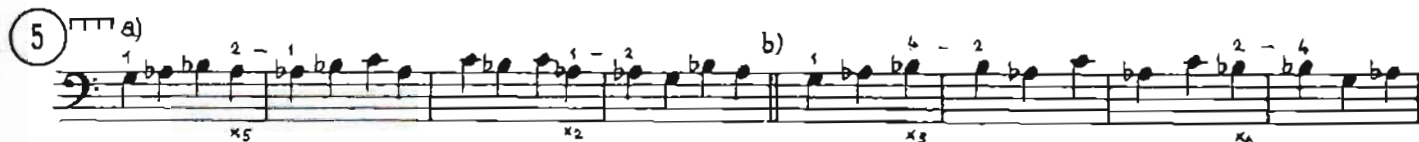
x3: The first finger does not move during the second-finger shift.

x4: At this point, be sure that the other fingers move a whole tone while the first finger only moves a semitone.

D. A Preparatory Exercise for Shifting the Entire Hand a Whole Tone through Finger Substitutions on the Same Notes without Expanding the Usual Stretch



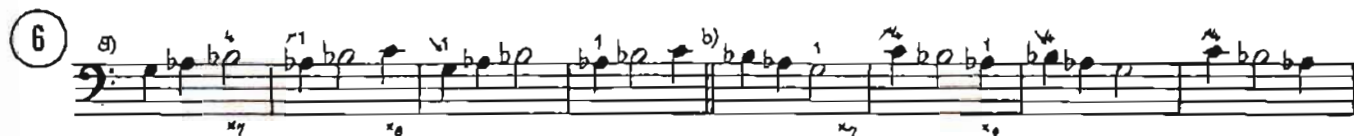
E. Expanding the Stretch between the First and Second Fingers while Shifting Position by Alternately Substituting the Second Finger for the First or the Fourth Finger for the Second on the Same Notes



x5: The other fingers move away from the first finger when the substitution occurs.

x6: The first finger shortens the stretch between it and the second finger when the substitution occurs.

F. Shifting Position and Expanding the Usual Stretch by Obliquely Dropping the First or Fourth Fingers a Half or Whole Tone Higher or Lower



x7: As the first finger slides a semitone upward, the other fingers, together with the thumb, rise in the air, and with a sudden motion, expand the stretch to a whole tone.

x8: The stretch is contracted to a half tone in the reverse of the manner employed in x7.

x9: Be sure that the first finger only slides a semitone downward as the fourth finger slides a whole tone.

Special Note to the Student

In order to employ the third finger in all exercises in this chapter, these studies should also be practiced in the form of their enharmonic equivalents.

CHAPTER 27

SHIFTING FROM THE FOURTH INTO THE RAISED THIRD POSITION, AND BACK AGAIN,
THROUGH FINGER SLIDES, SUBSTITUTIONS AND STRETCHES

Special Note to the Student

The relationship between the raised third position and the fourth is the same as that between the half position and the first.

Exercise 1: A series of shifts between the fourth and raised third positions. The exercises are labeled a) through e). a) shows a shift from 4th to 3rd position (4-4, 1-1). b) shows a shift from 3rd to 4th position (4-3, 1-1). c) shows a shift from 4th to 3rd position (4-2, 1-1). d) shows a shift from 3rd to 4th position (1-1, 4-4). e) shows a shift from 4th to 3rd position (1-1, 3-4). The exercises are written on a single staff with a key signature of one sharp (F#) and a common time signature (C).

Exercise 2: A series of ascending and descending scales. The exercises are labeled 1 through 10. The scales are written on a single staff with a key signature of one sharp (F#) and a common time signature (C). The exercises are numbered 1 through 10.

Various Shifts between Two Strings

Exercise 3: A series of shifts between the first and second strings. The exercises are labeled a) through c). a) shows a shift from the first string to the second string (1-1, 1-1). b) shows a shift from the second string to the first string (1-1, 4-3). c) shows a shift from the first string to the second string (1-1, 2-2). The exercises are written on a single staff with a key signature of one sharp (F#) and a common time signature (C).

④

⑤

⑥

⑦

Where there are two string symbols in this and subsequent examples, the student may elect to play on either string with the appropriate fingerings.

⑧

CHAPTER 28

THE CLOSE AND OPEN FOURTH POSITIONS

In the fourth position, the distances between fingers are naturally smaller than in the first position but the relationships between the fingers remain the same.

A. The Close Fourth Position

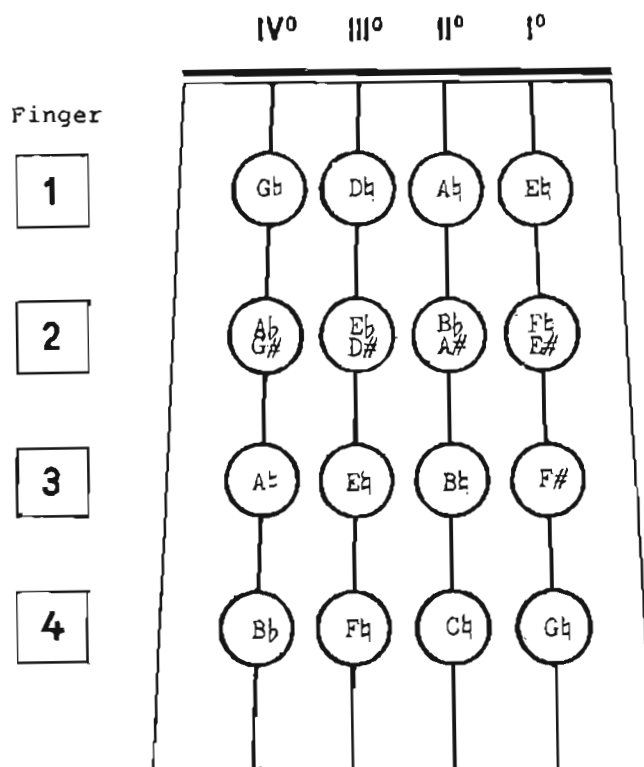


Table of Enharmonic Equivalent Fingerings
for Each String

1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
I ^o enharmonically				II ^o				III ^o				IV ^o			
I ^o				II ^o				III ^o				IV ^o			

D. Shifting from the open first position into the Close Fourth Position

(a) with the same finger

Exercise 1: Shifting with the same finger. The exercise is written on two staves in bass clef. The first staff contains two measures of music. The first measure has a circled '1' at the beginning and a circled 'nv' below it. Above the staff, there are two boxed fingerings: '4-4' and '2-2'. The second staff contains two measures of music. Above the staff, there are two boxed fingerings: '3-3' and '1-1'. The notes are: B1, C2, D2, E2, F2, G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7, D7, E7, F7, G7, A7, B7, C8, D8, E8, F8, G8, A8, B8, C9, D9, E9, F9, G9, A9, B9, C10, D10, E10, F10, G10, A10, B10, C11, D11, E11, F11, G11, A11, B11, C12, D12, E12, F12, G12, A12, B12, C13, D13, E13, F13, G13, A13, B13, C14, D14, E14, F14, G14, A14, B14, C15, D15, E15, F15, G15, A15, B15, C16, D16, E16, F16, G16, A16, B16, C17, D17, E17, F17, G17, A17, B17, C18, D18, E18, F18, G18, A18, B18, C19, D19, E19, F19, G19, A19, B19, C20, D20, E20, F20, G20, A20, B20, C21, D21, E21, F21, G21, A21, B21, C22, D22, E22, F22, G22, A22, B22, C23, D23, E23, F23, G23, A23, B23, C24, D24, E24, F24, G24, A24, B24, C25, D25, E25, F25, G25, A25, B25, C26, D26, E26, F26, G26, A26, B26, C27, D27, E27, F27, G27, A27, B27, C28, D28, E28, F28, G28, A28, B28, C29, D29, E29, F29, G29, A29, B29, C30, D30, E30, F30, G30, A30, B30, C31, D31, E31, F31, G31, A31, B31, C32, D32, E32, F32, G32, A32, B32, C33, D33, E33, F33, G33, A33, B33, C34, D34, E34, F34, G34, A34, B34, C35, D35, E35, F35, G35, A35, B35, C36, D36, E36, F36, G36, A36, B36, C37, D37, E37, F37, G37, A37, B37, C38, D38, E38, F38, G38, A38, B38, C39, D39, E39, F39, G39, A39, B39, C40, D40, E40, F40, G40, A40, B40, C41, D41, E41, F41, G41, A41, B41, C42, D42, E42, F42, G42, A42, B42, C43, D43, E43, F43, G43, A43, B43, C44, D44, E44, F44, G44, A44, B44, C45, D45, E45, F45, G45, A45, B45, C46, D46, E46, F46, G46, A46, B46, C47, D47, E47, F47, G47, A47, B47, C48, D48, E48, F48, G48, A48, B48, C49, D49, E49, F49, G49, A49, B49, C50, D50, E50, F50, G50, A50, B50, C51, D51, E51, F51, G51, A51, B51, C52, D52, E52, F52, G52, A52, B52, C53, D53, E53, F53, G53, A53, B53, C54, D54, E54, F54, G54, A54, B54, C55, D55, E55, F55, G55, A55, B55, C56, D56, E56, F56, G56, A56, B56, C57, D57, E57, F57, G57, A57, B57, C58, D58, E58, F58, G58, A58, B58, C59, D59, E59, F59, G59, A59, B59, C60, D60, E60, F60, G60, A60, B60, C61, D61, E61, F61, G61, A61, B61, C62, D62, E62, F62, G62, A62, B62, C63, D63, E63, F63, G63, A63, B63, C64, D64, E64, F64, G64, A64, B64, C65, D65, E65, F65, G65, A65, B65, C66, D66, E66, F66, G66, A66, B66, C67, D67, E67, F67, G67, A67, B67, C68, D68, E68, F68, G68, A68, B68, C69, D69, E69, F69, G69, A69, B69, C70, D70, E70, F70, G70, A70, B70, C71, D71, E71, F71, G71, A71, B71, C72, D72, E72, F72, G72, A72, B72, C73, D73, E73, F73, G73, A73, B73, C74, D74, E74, F74, G74, A74, B74, C75, D75, E75, F75, G75, A75, B75, C76, D76, E76, F76, G76, A76, B76, C77, D77, E77, F77, G77, A77, B77, C78, D78, E78, F78, G78, A78, B78, C79, D79, E79, F79, G79, A79, B79, C80, D80, E80, F80, G80, A80, B80, C81, D81, E81, F81, G81, A81, B81, C82, D82, E82, F82, G82, A82, B82, C83, D83, E83, F83, G83, A83, B83, C84, D84, E84, F84, G84, A84, B84, C85, D85, E85, F85, G85, A85, B85, C86, D86, E86, F86, G86, A86, B86, C87, D87, E87, F87, G87, A87, B87, C88, D88, E88, F88, G88, 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F114, G114, A114, B114, C115, D115, E115, F115, G115, A115, B115, C116, D116, E116, F116, G116, A116, B116, C117, D117, E117, F117, G117, A117, B117, C118, D118, E118, F118, G118, A118, B118, C119, D119, E119, F119, G119, A119, B119, C120, D120, E120, F120, G120, A120, B120, C121, D121, E121, F121, G121, A121, B121, C122, D122, E122, F122, G122, A122, B122, C123, D123, E123, F123, G123, A123, B123, C124, D124, E124, F124, G124, A124, B124, C125, D125, E125, F125, G125, A125, B125, C126, D126, E126, F126, G126, A126, B126, C127, D127, E127, F127, G127, A127, B127, C128, D128, E128, F128, G128, A128, B128, C129, D129, E129, F129, G129, A129, B129, C130, D130, E130, F130, G130, A130, B130, C131, D131, E131, F131, G131, A131, B131, C132, D132, E132, F132, G132, A132, B132, C133, D133, E133, F133, G133, A133, B133, C134, D134, E134, F134, G134, A134, B134, C135, D135, E135, F135, G135, A135, B135, C136, D136, E136, F136, G136, A136, B136, C137, D137, E137, F137, G137, A137, B137, C138, D138, E138, F138, G138, A138, B138, C139, D139, E139, F139, G139, A139, B139, C140, D140, E140, F140, G140, A140, B140, C141, D141, E141, F141, G141, A141, B141, C142, D142, E142, F142, G142, A142, B142, C143, D143, E143, F143, G143, A143, B143, C144, D144, E144, F144, G144, A144, B144, C145, D145, E145, F145, G145, A145, B145, C146, D146, E146, F146, G146, A146, B146, C147, D147, E147, F147, G147, A147, B147, C148, D148, E148, F148, G148, A148, B148, C149, D149, E149, F149, G149, A149, B149, C150, D150, E150, F150, G150, A150, B150, C151, D151, E151, F151, G151, A151, B151, C152, D152, E152, F152, G152, A152, B152, C153, D153, E153, F153, G153, A153, B153, C154, D154, E154, F154, G154, A154, B154, C155, D155, E155, F155, G155, A155, B155, C156, D156, E156, F156, G156, A156, B156, C157, D157, E157, F157, G157, A157, B157, C158, D158, E158, F158, G158, A158, B158, C159, D159, E159, F159, G159, A159, B159, C160, D160, E160, F160, G160, A160, B160, C161, D161, E161, F161, G161, A161, B161, C162, D162, E162, F162, G162, A162, B162, C163, D163, E163, F163, G163, A163, B163, C164, D164, E164, F164, G164, A164, B164, C165, D165, E165, F165, G165, A165, B165, C166, D166, E166, F166, G166, A166, B166, C167, D167, E167, F167, G167, A167, B167, C168, D168, E168, F168, G168, A168, B168, C169, D169, E169, F169, G169, A169, B169, C170, D170, E170, F170, G170, A170, B170, C171, D171, E171, F171, G171, A171, B171, C172, D172, E172, F172, G172, A172, B172, C173, D173, E173, F173, G173, A173, B173, C174, D174, E174, F174, G174, A174, B174, C175, D175, E175, F175, G175, A175, B175, C176, D176, E176, F176, G176, A176, B176, C177, D177, E177, F177, G177, A177, B177, C178, D178, E178, F178, G178, A178, B178, C179, D179, E179, F179, G179, A179, B179, C180, D180, E180, F180, G180, A180, B180, C181, D181, E181, F181, G181, A181, B181, C182, D182, E182, F182, G182, A182, B182, C183, D183, E183, F183, G183, A183, B183, C184, D184, E184, F184, G184, A184, B184, C185, D185, E185, F185, G185, A185, B185, C186, D186, E186, F186, G186, A186, B186, C187, D187, E187, F187, G187, A187, B187, C188, D188, E188, F188, G188, A188, B188, C189, D189, E189, F189, G189, A189, B189, C190, D190, E190, F190, G190, A190, B190, C191, D191, E191, F191, G191, A191, B191, C192, D192, E192, F192, G192, A192, B192, C193, D193, E193, F193, G193, A193, B193, C194, D194, E194, F194, G194, A194, B194, C195, D195, E195, F195, G195, A195, B195, C196, D196, E196, F196, G196, A196, B196, C197, D197, E197, F197, G197, A197, B197, C198, D198, E198, F198, G198, A198, B198, C199, D199, E199, F199, G199, A199, B199, C200, D200, E200, F200, G200, A200, B200, C201, D201, E201, F201, G201, A201, B201, C202, D202, E202, F202, G202, A202, B202, C203, D203, E203, F203, G203, A203, B203, C204, D204, E204, F204, G204, A204, B204, C205, D205, E205, F205, G205, A205, B205, C206, D206, E206, F206, G206, A206, B206, C207, D207, E207, F207, G207, A207, B207, C208, D208, E208, F208, G208, A208, B208, C209, D209, 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G351, A351, B351, C352, D352, E352, F352, G352, A352, B352, C353, D353, E353, F353, G353, A353, B353, C354, D354, E354, F354, G354, A354, B354, C355, D355, E355, F355, G355, A355, B355, C356, D356, E356, F356, G356, A356, B356, C357, D357, E357, F357, G357, A357, B357, C358, D358, E358, F358, G358, A358, B358, C359, D359, E359, F359, G359, A359, B359, C360, D360, E360, F360, G360, A360, B360, C361, D361, E361, F361, G361, A361, B361, C362, D362, E362, F362, G362, A362, B362, C363, D363, E363, F363, G363, A363, B363, C364, D364, E364, F364, G364, A364, B364, C365, D365, E365, F365, G365, A365, B365, C366, D366, E366, F366, G366, A366, B366, C367, D367, E367, F367, G367, A367, B367, C368, D368, E368, F368, G368, A368, B368, C369, D369, E369, F369, G369, A

C. Shifting from the Close First Position
into the Open Lowered Fourth Position

(a) with the same finger

Exercise 4: Shifting from the Close First Position into the Open Lowered Fourth Position, using the same finger. The exercise consists of two staves of music. The first staff contains two measures of music with fingerings 4-4, 4-4, 4-4, and 2-2. The second staff contains two measures with fingerings 3-3, 3-3, 1-1, and 1-1. Both staves have a 'p' (piano) dynamic marking at the end. There are also 'x' and 'x1' markings below the first staff.

(b) from the lower to the upper finger

Exercise 5: Shifting from the lower to the upper finger. The exercise consists of three staves of music. The first staff contains two measures with fingerings 2-4, 2-4, 4-2, and 1-4. The second staff contains two measures with fingerings 1-2, 1-2, 2-1, and 1-3. The third staff contains two measures with fingerings 2-3, 2-3, 3-2, and 3-4. All staves have a 'p' (piano) dynamic marking at the end.

(c) from the upper to the lower finger

Exercise 6: Shifting from the upper to the lower finger. The exercise consists of three staves of music. The first staff contains two measures with fingerings 2-1, 2-1, 1-2, and 4-1. The second staff contains two measures with fingerings 4-2, 4-2, 2-4, and 3-2. The third staff contains two measures with fingerings 3-1, 3-1, 1-3, and 4-3. All staves have a 'p' (piano) dynamic marking at the end.

D. Exercises in Shifting from the Raised First Position
to the Close Fourth Position on the Second String

7 

8 

9 

10 

11 

12 

13 

14 

E. Further Exercises in Shifting from the Open First Position to the Close Fourth Position

(a) with the same finger

Exercise 15: Bass clef, two staves. The first staff contains measures 1-4 with fingerings 4-4, 4-4, 4-4, and 2-2. The second staff contains measures 5-8 with fingerings 3-3, 3-3, 1-1, and 1-1. The key signature has one flat (B-flat).

(b) from the lower to the upper finger

Exercise 16: Bass clef, two staves. The first staff contains measures 1-4 with fingerings 1-4, 1-4, 4-1, and 2-4. The second staff contains measures 5-8 with fingerings 3-4, 3-4, 1-2, and 2-1. The third staff contains measures 9-12 with fingerings 1-3, 1-3, 2-3, and 3-2. The key signature has one flat (B-flat).

(c) from the upper to the lower finger

Exercise 17: Bass clef, two staves. The first staff contains measures 1-4 with fingerings 2-1, 2-1, 1-2, and 4-1. The second staff contains measures 5-8 with fingerings 4-2, 4-2, 4-3, and 3-4. The third staff contains measures 9-12 with fingerings 3-1, 3-1, 3-2, and 2-3. The key signature has one flat (B-flat).

Special Note to the Student

If the enharmonic equivalents on the lower line above are not played in equal-tempered intonation, the fingers which play the altered notes - the E \sharp , the A \sharp , the B \sharp , the D \sharp , etc. - will lie somewhat nearer the bridge than they would when playing the unaltered ones. That is, the E \sharp will be higher in pitch than the F \natural , the A \sharp higher than the B \flat , the B \sharp higher than the C \natural , etc.

18) 

19) 

20) 

F. The Open Fourth Position

	IV ^o	III ^o	II ^o	I ^o
Finger				
1	G ^b F [#]	F ^b E [#]	A ^b G [#]	E ^b D [#]
2	A ^b G [#]	E ^b D [#]	B ^b A [#]	F ^b
3	A ^b	E ^b	B ^b	F [#]
4	B ^b A [#]	F ^b E [#]	C ^b B [#]	G ^b

Table of Enharmonic Equivalent Fingerings
for Each String

The diagram illustrates the fingerings for each string in the open fourth position. The top staff shows the open strings (E, A, D, G) with fingerings 1, 2, 3, 4 respectively. The bottom staff shows the enharmonic equivalents (F#, C#, G#, D#) with fingerings 1, 2, 3, 4 respectively. The strings are labeled I, II, III, IV from left to right.

Although both are considered normal stretches, greater effort and physiological difficulty are, nevertheless, involved in correctly mastering the open stretch than the close one in the fourth position. The main difficulty is in the necessity of the first finger - though at a whole tone removed from the other fingers - being able to retain (1) its perpendicular relationship to the plane of the fingerboard, and (2) its ability to touch the string in the same way and with almost the same part of the finger as it does in close position.

To achieve this, the arch line of the other fingers from the knuckles to the tips must be lowered in relation to the fingerboard and made flatter. Of course, the internal relationships of the fingers to each other remain the same after the line is lowered. The thumb arch also flattens out, moving in tandem with the knuckles.

It is possible to move from the close to the open position in two ways: by raising the first finger obliquely and dropping it perpendicularly, or by sliding it along the string.

21

22

23

G. Exercises in Shifting from the Close First Position to the Open Fourth Position on the Second String

24

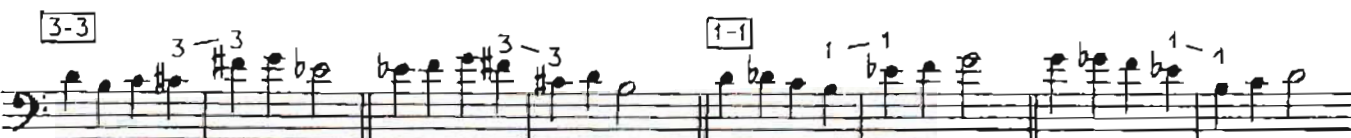
25

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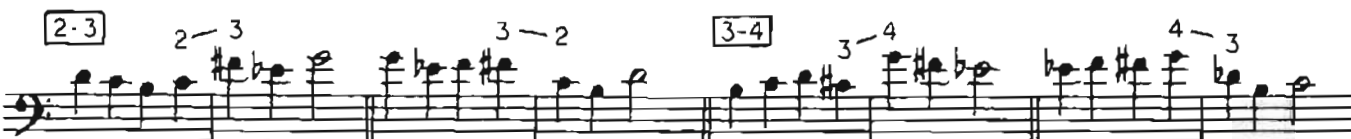
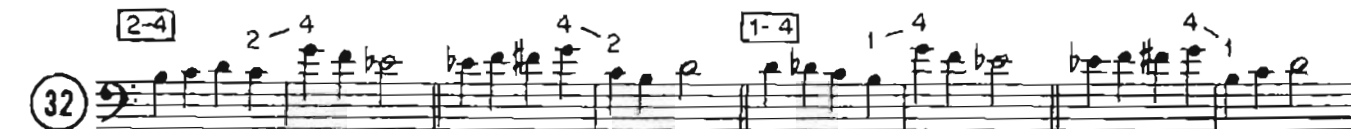


H. Exercises in Shifting from the Close First Position to the Open Fourth Position on the First String

(a) with the same finger



(b) from the lower to the upper finger



(c) from the upper to the lower finger

33

Handwritten musical notation for exercise 33, featuring three staves of music. The notation includes various fingerings (e.g., 2-1, 4-1, 3-2, 4-3) and accidentals (sharps and flats) indicating specific intervals and scales. The first staff contains measures with fingerings 2-1, 2-1, 1-2, 4-1, 4-1, and 1-4. The second staff contains measures with fingerings 4-2, 4-2, 2-4, 3-2, 3-2, and 2-3. The third staff contains measures with fingerings 3-1, 3-1, 1-3, 4-3, 4-3, and 3-4. The notation is written on a five-line staff with a bass clef.

I. Further Exercises in Shifting from the Open First Position to the Open Fourth Position

(a) with the same finger

Handwritten musical exercises for the left hand, numbered 34 to 37. Each exercise is on a single staff with a key signature of one flat (B-flat). Exercise 34: 4-4 pattern, a) and b) variations. Exercise 35: 2-2 pattern, a) and b) variations. Exercise 36: 1-1 pattern, a) and b) variations. Exercise 37: 3-3 pattern, a) and b) variations. The exercises involve various intervals and accidentals (sharps and flats).

(b) from the lower to the upper finger

38) 1-2 a) 1-2 b) 1-2

39) 1-4 a) 1-4 b) 1-4

40) 2-4 a) b)

41) 3-4 a) b)

42) 1-3 a) b)

43) 2-3 a) b)

(c) from the upper to the lower finger

44) 2-1 a) 2-1 b)

45) 4-1 a) 4-1 b)

46) 4-2 a) 4-2 b)

47) 3-1 a) 3-1 b)

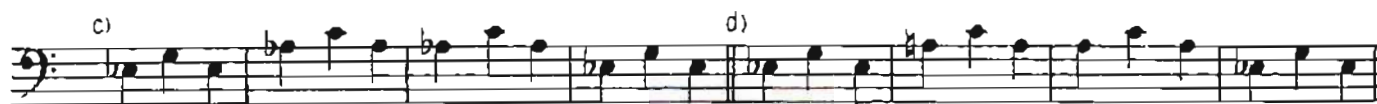
48) 4-3 a) 4-3 b)

49) 3-2 a) 3-2 b)

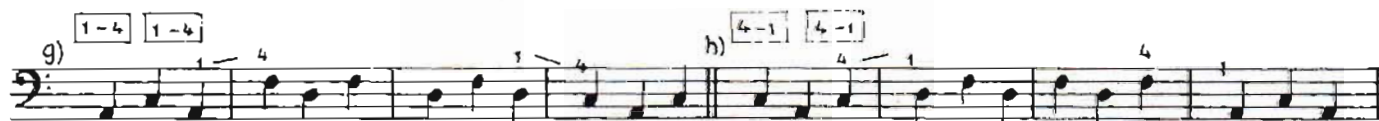
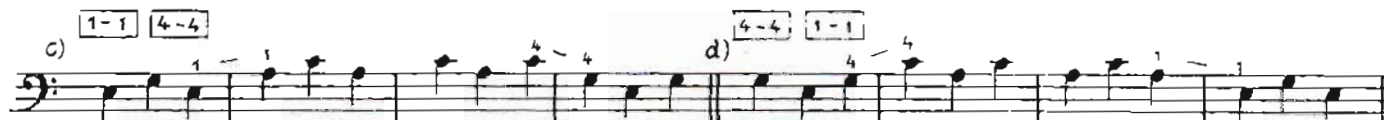
Remember that at the shift the thumb of the left hand remains always in contact with the fingerboard, and that all the fingers are constantly in a vertical posture!

J. Exercises for Transferring the Close and Open Stretches
of the First or Fourth Fingers from the First into the Fourth Position

1-1 1-1



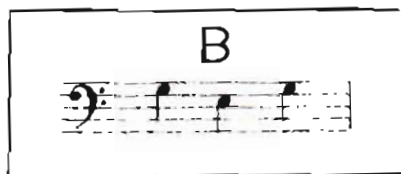
In the same way (with the same chromatic alterations)



Variations for the bars:

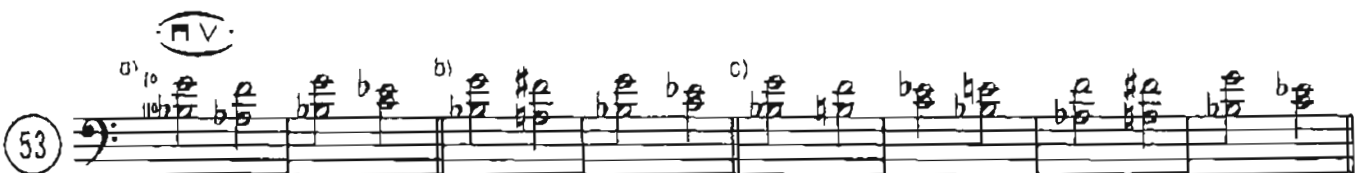


Variations for the bars:



K. Variations on the Previous Exercises





L. Various Shifts to the Fourth Position



58

59

60

61

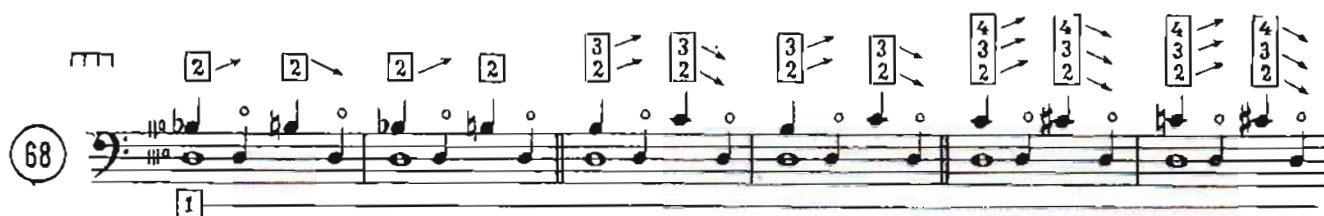
62

63

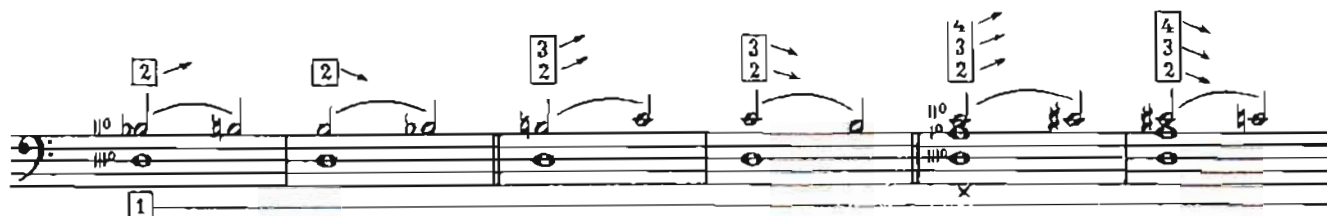
64

N. Changing from the Close Fourth Position to the Open Raised Fourth Position

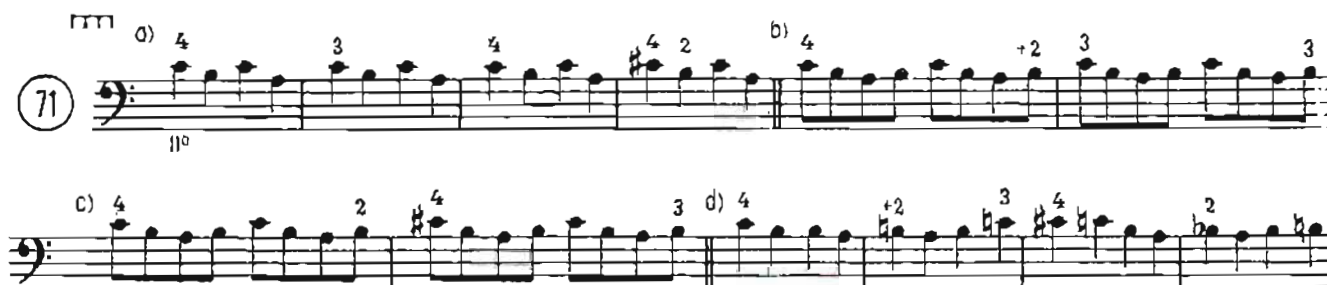
. . . by raising the second, third and fourth fingers obliquely (during the rest), and dropping them vertically.



Shifts by sliding the second, third and fourth fingers



x) from this sign onwards, we play on strings I and II, but the first finger remains on string III where it has been before.



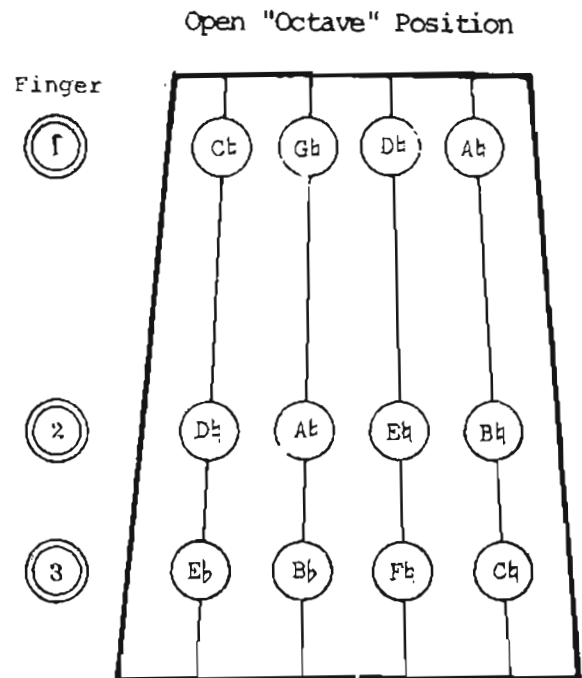
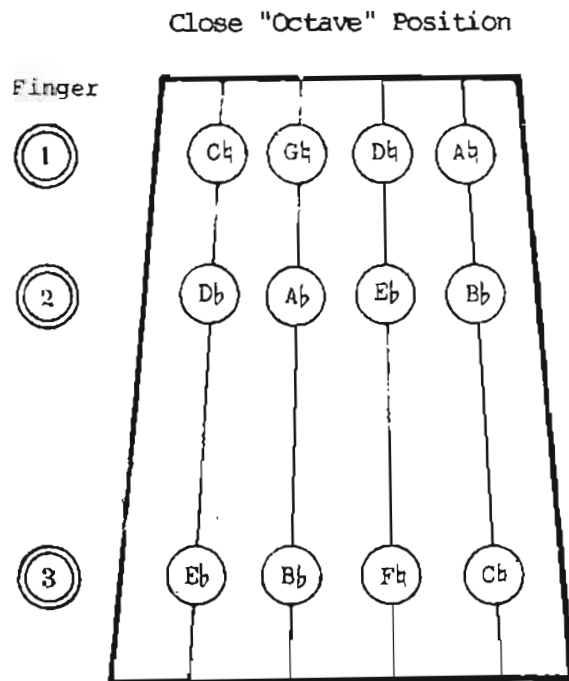
The Upper Positions and their Approach through Finger Extension Changes

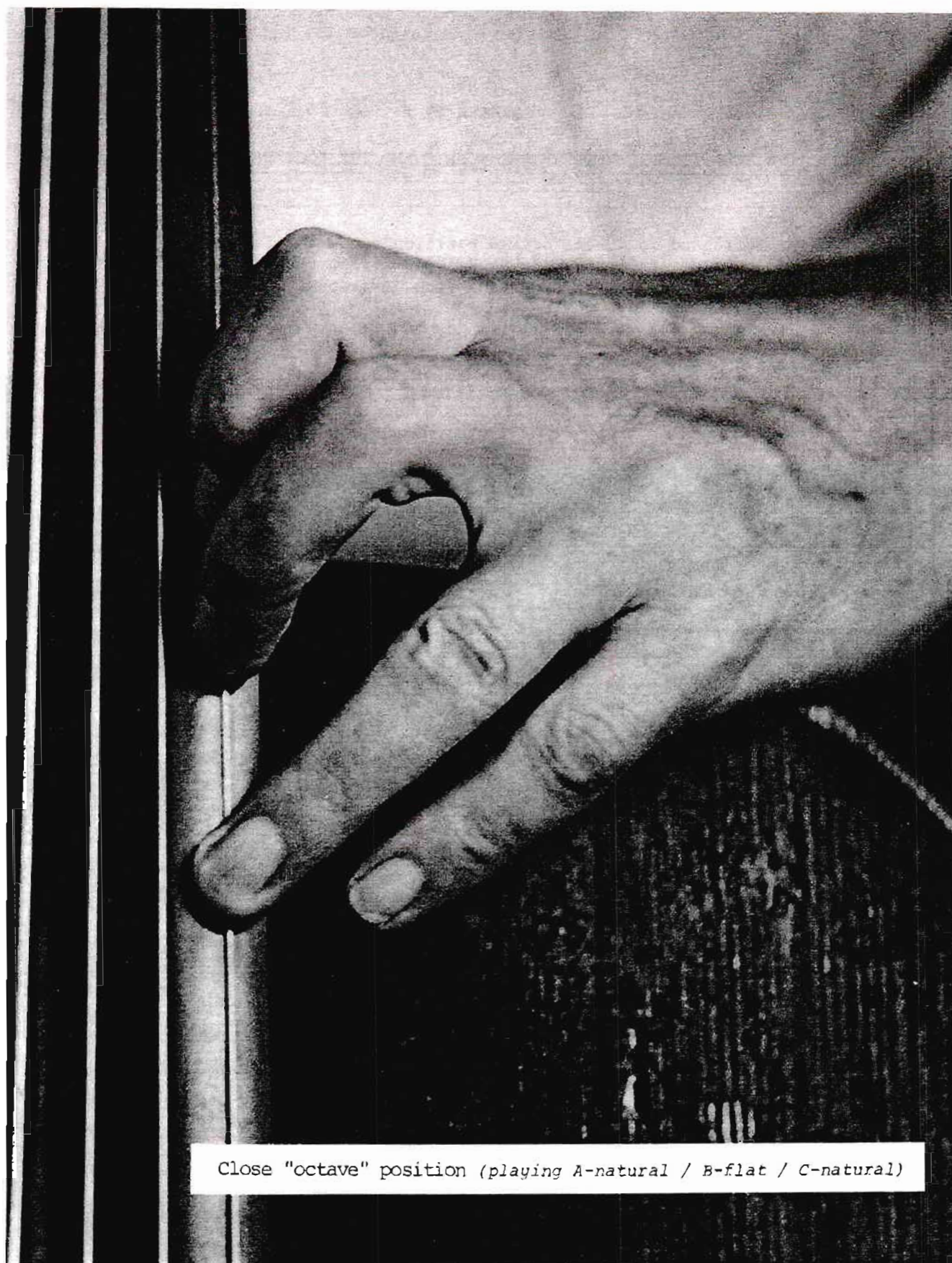
CHAPTER 29

THE RELATIONSHIP BETWEEN THE FOURTH AND THE "OCTAVE" POSITIONS

The left hand is in an "octave position" when the first finger is placed on the note an octave above the open string tuning. The relationship between fingers is the same as in the lower positions previously discussed.

A. The Close, Open and Extended "Octave" Positions



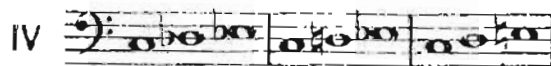
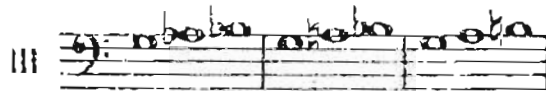
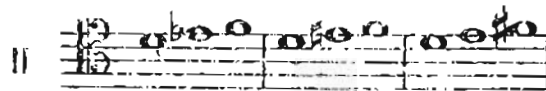
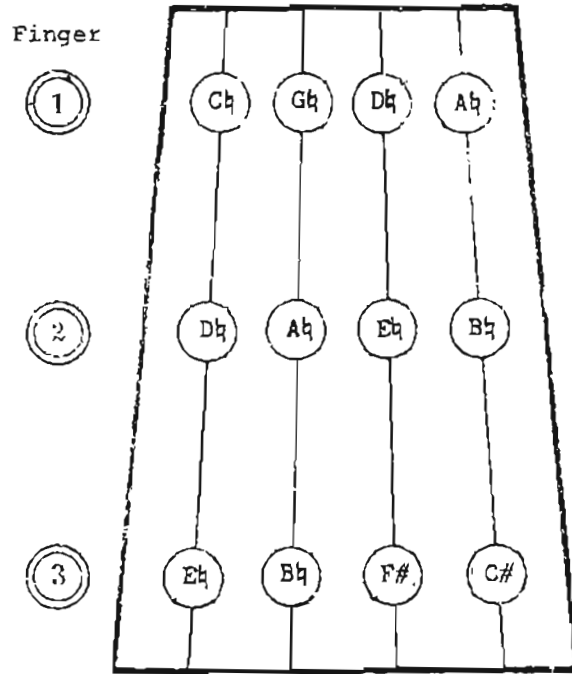


Close "octave" position (playing A-natural / B-flat / C-natural)

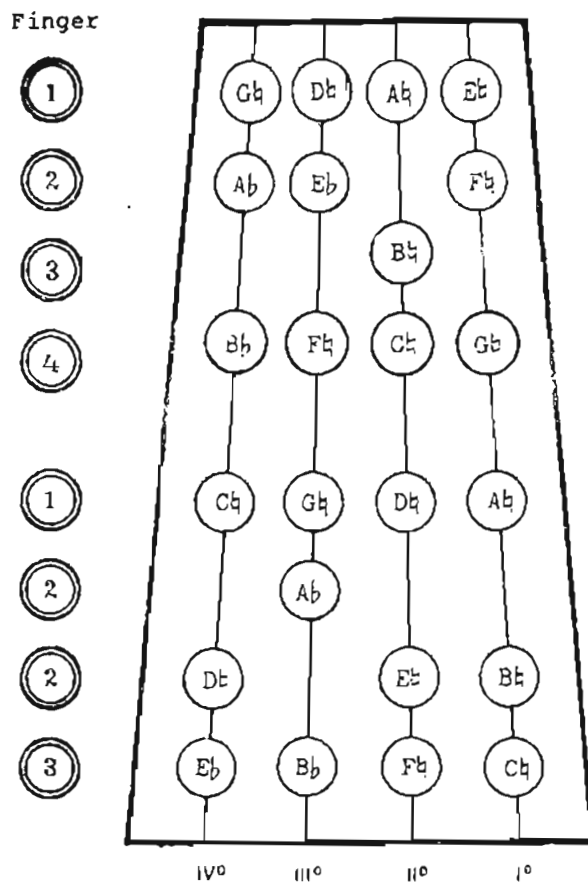


Open "octave" position (*playing A, B and C natural*)

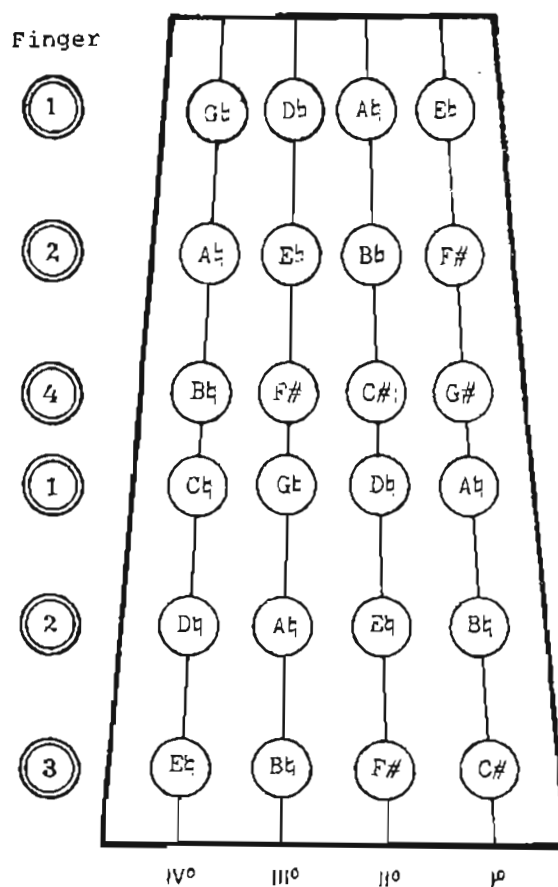
Extended "Octave" Position



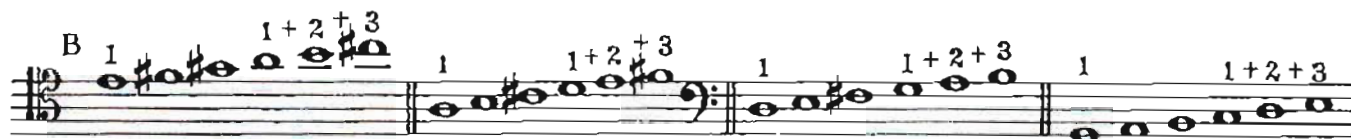
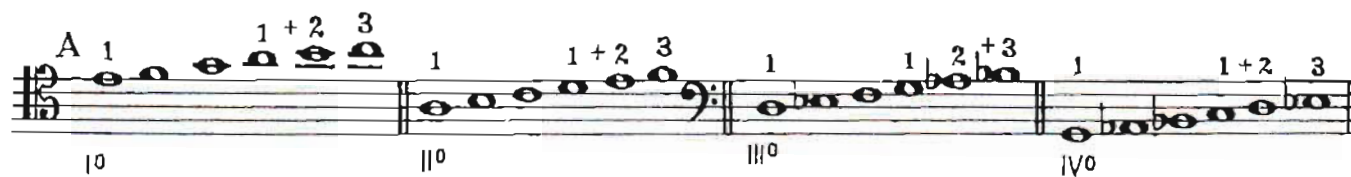
B. Some Relationships between the Fourth and "Octave" Positions

Close Fourth Position
and Open "Octave" Position

A

Extended Fourth Position
and Extended "Octave" Position

B



PREPARATORY EXERCISES FOR THE CORRECT PLACEMENT
OF THE LEFT HAND IN "OCTAVE" POSITION

①

②

x1

x: Rather than wait to attack the F
on its regular beat, the third finger moves
higher when the first finger hits the first
note of the first measure.

3

4

5

x: Rather than wait to attack the note on its regular beat, move the third finger higher at the same time that the first note in the bar is played.

Variation

EXTENSION EXERCISES EMPLOYING THE FOURTH FINGER

Repeat each two bars, then the entire exercise.

①

x: The second finger shifts its placement after the first note of the first measure.

②

Variation

In the exercise below, practice every bar separately, then the whole exercise.

3

a) 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3

b) 1 2 1 3 1 4 1 3 3

+2

#3



CHAPTER 32

EXERCISES FOR EXTENSION CHANGES BETWEEN THE SECOND AND THIRD FINGERS

1

11c

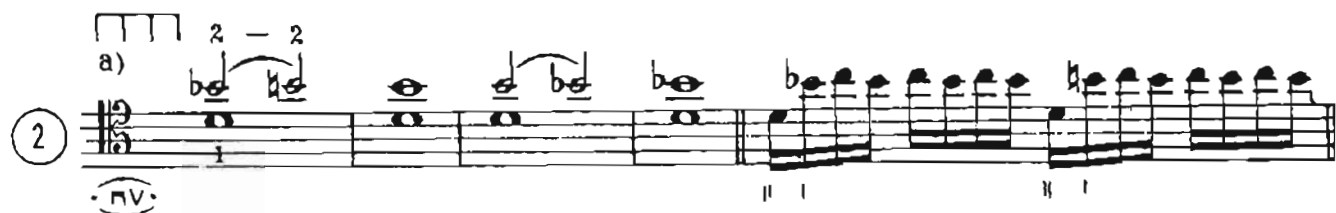
*

1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3

2 2 3 3 2 3 3 2 1 2 2 3 3 2 1 2 2 3 3

1 2 2 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3

*: While the second finger slides at this point, the third finger remains fixed so that its relationship to the first finger is augmented by a half-tone.

a) 




b) 





c) 





d)

e)

f)

The first system of musical notation for 'The Rose Tree' is written on a single five-line staff. It begins with a treble clef and a key signature of one flat (B-flat). The melody consists of a series of eighth and quarter notes, with some notes beamed together. The notes are: G4 (quarter), A4-B4 (beamed eighth notes), C5 (quarter), B4-A4 (beamed eighth notes), G4 (quarter), F4-G4 (beamed eighth notes), E4 (quarter), D4-E4 (beamed eighth notes), C4 (quarter), B3-C4 (beamed eighth notes), A3 (quarter), G3-A3 (beamed eighth notes), F3 (quarter), E3-F3 (beamed eighth notes), D3 (quarter), C3 (half). The system ends with a double bar line.

h) 

The first system of musical notation for 'The Rose Tree' is written on a single staff with a treble clef and a key signature of one sharp (F#). The melody consists of a series of eighth and sixteenth notes, with some notes beamed together. The notation includes various accidentals (sharps, flats, naturals) and rests. The system ends with a double bar line.

The first system of musical notation for 'The Rose Tree' is written on a single five-line staff. It begins with a treble clef and a key signature of one flat (B-flat). The melody consists of a series of eighth and sixteenth notes, with some notes beamed together. There are several measures of rests, indicated by a '0' or a vertical line. The notation is in a simple, folk-like style.



Keeping the silent fingers on the diamond-shaped notes insures that the fingers remain in their proper relationship to each other.



Special Note to the Student

Where possible, the exercises from 1 to 3 should be practiced with the first finger on the following whole notes:



SHIFTING THE FIRST FINGER
WHILE KEEPING A WHOLE-TONE STRETCH
BETWEEN FINGERS TWO AND THREE

①

②

③

4



CHAPTER 34

OCTAVE LEAPS USING AN INTERMEDIATE
MAJOR OR MINOR SIXTH AS A BRIDGE

1

2

EXERCISES FOR OCTAVE-LEAP SECURITY

a)

Exercise 'a' consists of four staves of music in 12/8 time. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a 12/8 time signature. It contains four measures of eighth-note patterns with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and slurs. The second staff continues the pattern with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and a slur. The third staff continues with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and a slur. The fourth staff continues with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and a slur. The exercise is marked with a '10' above the first staff.

b)

Exercise 'b' consists of four staves of music in 12/8 time. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a 12/8 time signature. It contains four measures of eighth-note patterns with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and slurs. The second staff continues the pattern with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and a slur. The third staff continues with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and a slur. The fourth staff continues with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and a slur.

c)

Exercise 'c' consists of two staves of music in 12/8 time. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a 12/8 time signature. It contains four measures of eighth-note patterns with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and slurs. The second staff continues the pattern with fingerings (1, 3; 2, 3; 3, 3; 4, 3) and a slur.



CHAPTER 36

SIMULTANEOUS POSITION AND STRING CHANGES,
SOMETIMES USING OCTAVE LEAPS



②

12/8

1 + 2 1 1 3 1 1

10 3 110 10 110 10

1 + 2 1 1 3 1 1

110 10 110 10

1 + 2 1 + 2 3 10 110

③

12/8

1 1 1 2 1 2 3 4 1 2 3 4 1 2 3 4

110 10 2 110 10 110 10 110 10 110 10

3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4

2 2 +2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

④

12/8

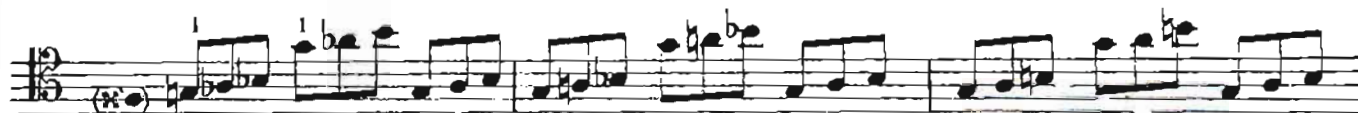
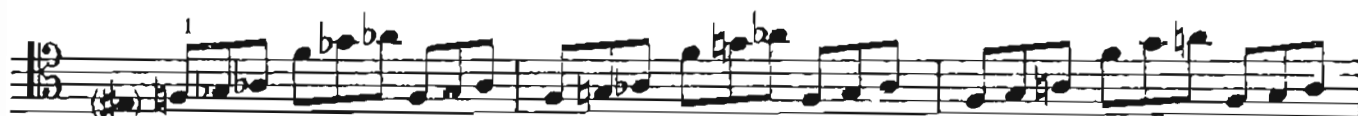
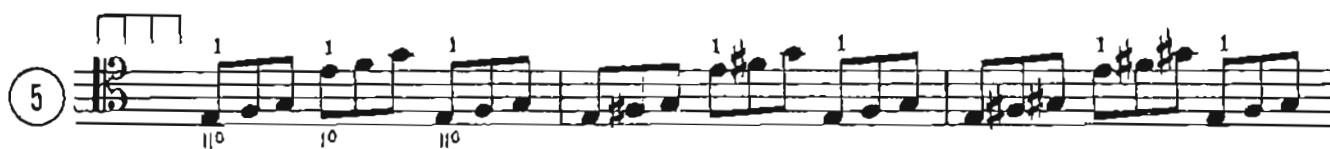
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

110 110 10 110 110 110 110 110 110 110 110 110 110 110 110 110

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

110 110 110 110 110 110 110 110 110 110 110 110 110 110 110 110

Variations on Exercises 1, 2, 3, and 4



7

10 110 1110 1170 1110 110 10

8

10 110 10 110 10 10

110 10 110 10

simile

9

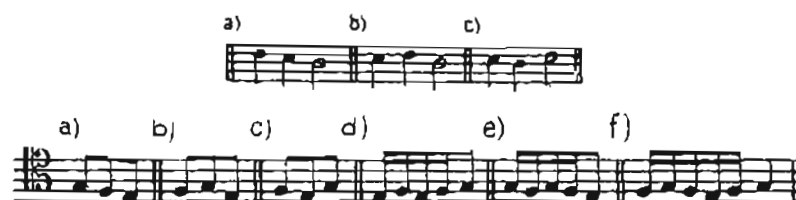
simile

10

11

The image displays three musical exercises, numbered 9, 10, and 11, written in bass clef with a 12/8 time signature and a key signature of one sharp (F#). Exercise 9 consists of 8 measures, with the first measure marked with a repeat sign and a first ending bracket. Exercise 10 consists of 12 measures. Exercise 11 consists of 12 measures, with a key signature change to D minor (two flats) occurring in measure 7. Fingerings are indicated by numbers 1 through 5 above the notes. Ornaments are indicated by a small 'o' above the notes in measures 1, 3, 5, 7, 9, 11, and 13 of exercise 11. The word 'simile' is written above the first measure of exercise 9.

Practice the exercises and variations above with the following patterns:

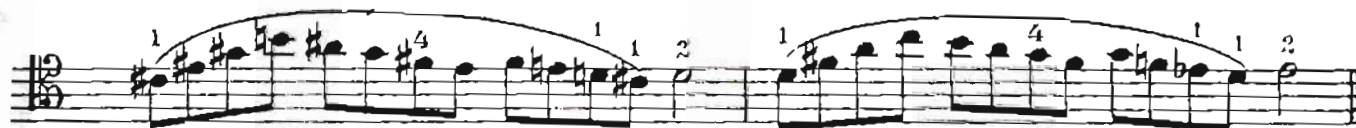


Further Variations Combining the Lower and Upper Positions



Also practice the variations above with these patterns:





18

19

20

Also practice the variations above with this pattern:

21

mv.

22

23



CHAPTER 37

STRETCH EXTENSIONS BETWEEN FINGERS
TO THE INTERVAL OF A FOURTH ON THE SAME OR DIFFERENT STRINGS

(a)

(b)

(c)

(d)

(e)

2

a)

b)

c)

3

a)

b)

c)

d)

e)

The first staff of music is in bass clef with a key signature of one flat (B-flat). It contains four measures of music. Above the first measure is a box containing the numbers 3 and 2. Above the second, third, and fourth measures is the number 1. The notes are: Measure 1: B-flat, A, G, F; Measure 2: E, D, C, B-flat; Measure 3: A, G, F, E; Measure 4: D, C, B-flat, A. The staff ends with a double bar line.

The first system of the musical score for 'The Rose Tree' is shown. It consists of a single staff with a treble clef and a key signature of one flat (B-flat). The time signature is 4/4, indicated by a '4' over a '4'. The melody begins with a quarter note G4, followed by a quarter note A4, a quarter note B-flat4, and a quarter note G4. This pattern repeats for the first four measures. The first measure is marked with a '1' above the staff, indicating the first ending. The second measure is marked with a '1' above the staff, indicating the first ending. The third measure is marked with a '1' above the staff, indicating the first ending. The fourth measure is marked with a '1' above the staff, indicating the first ending. The melody ends with a double bar line.

6

Handwritten musical notation for the bass line of 'The Rose Tree'. The key signature is one sharp (F#), and the time signature is 3/2. The melody consists of the following notes: G2, A2, B2, C3, D3, E3, F#3, G3, A3, B3, C4, D4, E4, F#4, G4, A4, B4, C5, D5, E5, F#5, G5, A5, B5, C6, D6, E6, F#6, G6, A6, B6, C7, D7, E7, F#7, G7, A7, B7, C8, D8, E8, F#8, G8, A8, B8, C9, D9, E9, F#9, G9, A9, B9, C10, D10, E10, F#10, G10, A10, B10, C11, D11, E11, F#11, G11, A11, B11, C12, D12, E12, F#12, G12, A12, B12, C13, D13, E13, F#13, G13, A13, B13, C14, D14, E14, F#14, G14, A14, B14, C15, D15, E15, F#15, G15, A15, B15, C16, D16, E16, F#16, G16, A16, B16, C17, D17, E17, F#17, G17, A17, B17, C18, D18, E18, F#18, G18, A18, B18, C19, D19, E19, F#19, G19, A19, B19, C20, D20, E20, F#20, G20, A20, B20, C21, D21, E21, F#21, G21, A21, B21, C22, D22, E22, F#22, G22, A22, B22, C23, D23, E23, F#23, G23, A23, B23, C24, D24, E24, F#24, G24, A24, B24, C25, D25, E25, F#25, G25, A25, B25, C26, D26, E26, F#26, G26, A26, B26, C27, D27, E27, F#27, G27, A27, B27, C28, D28, E28, F#28, G28, A28, B28, C29, D29, E29, F#29, G29, A29, B29, C30, D30, E30, F#30, G30, A30, B30, C31, D31, E31, F#31, G31, A31, B31, C32, D32, E32, F#32, G32, A32, B32, C33, D33, E33, F#33, G33, A33, B33, C34, D34, E34, F#34, G34, A34, B34, C35, D35, E35, F#35, G35, A35, B35, C36, D36, E36, F#36, G36, A36, B36, C37, D37, E37, F#37, G37, A37, B37, C38, D38, E38, F#38, G38, A38, B38, C39, D39, E39, F#39, G39, A39, B39, C40, D40, E40, F#40, G40, A40, B40, C41, D41, E41, F#41, G41, A41, B41, C42, D42, E42, F#42, G42, A42, B42, C43, D43, E43, F#43, G43, A43, B43, C44, D44, E44, F#44, G44, A44, B44, C45, D45, E45, F#45, G45, A45, B45, C46, D46, E46, F#46, G46, A46, B46, C47, D47, E47, F#47, G47, A47, B47, C48, D48, E48, F#48, G48, A48, B48, C49, D49, E49, F#49, G49, A49, B49, C50, D50, E50, F#50, G50, A50, B50, C51, D51, E51, F#51, G51, A51, B51, C52, D52, E52, F#52, G52, A52, B52, C53, D53, E53, F#53, G53, A53, B53, C54, D54, E54, F#54, G54, A54, B54, C55, D55, E55, F#55, G55, A55, B55, C56, D56, E56, F#56, G56, A56, B56, C57, D57, E57, F#57, G57, A57, B57, C58, D58, E58, F#58, G58, A58, B58, C59, D59, E59, F#59, G59, A59, B59, C60, D60, E60, F#60, G60, A60, B60, C61, D61, E61, F#61, G61, A61, B61, C62, D62, E62, F#62, G62, A62, B62, C63, D63, E63, F#63, G63, A63, B63, C64, D64, E64, F#64, G64, A64, B64, C65, D65, E65, F#65, G65, A65, B65, C66, D66, E66, F#66, G66, A66, B66, C67, D67, E67, F#67, G67, A67, B67, C68, D68, E68, F#68, G68, A68, B68, C69, D69, E69, F#69, G69, A69, B69, C70, D70, E70, F#70, G70, A70, B70, C71, D71, E71, F#71, G71, A71, B71, C72, D72, E72, F#72, G72, A72, B72, C73, D73, E73, F#73, G73, A73, B73, C74, D74, E74, F#74, G74, A74, B74, C75, D75, E75, F#75, G75, A75, B75, C76, D76, E76, F#76, G76, A76, B76, C77, D77, E77, F#77, G77, A77, B77, C78, D78, E78, F#78, G78, A78, B78, C79, D79, E79, F#79, G79, A79, B79, C80, D80, E80, F#80, G80, A80, B80, C81, D81, E81, F#81, G81, A81, B81, C82, D82, E82, F#82, G82, A82, B82, C83, D83, E83, F#83, G83, A83, B83, C84, D84, E84, F#84, G84, A84, B84, C85, D85, E85, F#85, G85, A85, B85, C86, D86, E86, F#86, G86, A86, B86, C87, D87, E87, F#87, G87, A87, B87, C88, D88, E88, F#88, G88, A88, B88, C89, D89, E89, F#89, G89, A89, B89, C90, D90, E90, F#90, G90, A90, B90, C91, D91, E91, F#91, G91, A91, B91, C92, D92, E92, F#92, G92, A92, B92, C93, D93, E93, F#93, G93, A93, B93, C94, D94, E94, F#94, G94, A94, B94, C95, D95, E95, F#95, G95, A95, B95, C96, D96, E96, F#96, G96, A96, B96, C97, D97, E97, F#97, G97, A97, B97, C98, D98, E98, F#98, G98, A98, B98, C99, D99, E99, F#99, G99, A99, B99, C100, D100, E100, F#100, G100, A100, B100, C101, D101, E101, F#101, G101, A101, B101, C102, D102, E102, F#102, G102, A102, B102, C103, D103, E103, F#103, G103, A103, B103, C104, D104, E104, F#104, G104, A104, B104, C105, D105, E105, F#105, G105, A105, B105, C106, D106, E106, F#106, G106, A106, B106, C107, D107, E107, F#107, G107, A107, B107, C108, D108, E108, F#108, G108, A108, B108, C109, D109, E109, F#109, G109, A109, B109, C110, D110, E110, F#110, G110, A110, B110, C111, D111, E111, F#111, G111, A111, B111, C112, D112, E112, F#112, G112, A112, B112, C113, D113, E113, F#113, G113, A113, B113, C114, D114, E114, F#114, G114, A114, B114, C115, D115, E115, F#115, G115, A115, B115, C116, D116, E116, F#116, G116, A116, B116, C117, D117, E117, F#117, G117, A117, B117, C118, D118, E118, F#118, G118, A118, B118, C119, D119, E119, F#119, G119, A119, B119, C120, D120, E120, F#120, G120, A120, B120, C121, D121, E121, F#121, G121, A121, B121, C122, D122, E122, F#122, G122, A122, B122, C123, D123, E123, F#123, G123, A123, B123, C124, D124, E124, F#124, G124, A124, B124, C125, D125, E125, F#125, G125, A125, B125, C126, D126, E126, F#126, G126, A126, B126, C127, D127, E127, F#127, G127, A127, B127, C128, D128, E128, F#128, G128, A128, B128, C129, D129, E129, F#129, G129, A129, B129, C130, D130, E130, F#130, G130, A130, B130, C131, D131, E131, F#131, G131, A131, B131, C132, D132, E132, F#132, G132, A132, B132, C133, D133, E133, F#133, G133, A133, B133, C134, D134, E134, F#134, G134, A134, B134

EXERCISES IN PLAYING CHROMATIC SCALES AND ARPEGGIOS
ON THE DIMINISHED SEVENTH CHORD

a) 1

11° sempre

b) 1

c) 1

2

1

11° sempre

3

11° sempre

a) 1 1 1 1 4 4 4 4 b) 4 1 4 1 4 1 4 1

11° sempre

The image displays three exercises for guitar, numbered 5, 6, and 7, each consisting of a right-hand staff and a left-hand staff.

- Exercise 5:** The right-hand staff begins with a circled '5'. The left-hand staff includes fingering numbers (1, 2, 3, 4) and the instruction 'II° sempre'.
- Exercise 6:** The right-hand staff begins with a circled '6'. The left-hand staff includes fingering numbers (1, 2, 3, 4) and the instruction 'II° sempre'.
- Exercise 7:** The right-hand staff begins with a circled '7'. It includes sub-exercises 'a)' and 'b)', both with fingering numbers (1, 2, 3, 4) and the instruction 'II° sempre'.

c)

Exercise c) consists of two staves. The first staff is in bass clef with a key signature of one sharp (F#) and a common time signature (C). It begins with a measure containing a '2' and a '0' above the notes. The second staff is in treble clef with a key signature of one flat (Bb) and a common time signature (C). Both staves contain eighth-note patterns.

8

Exercise 8 is a single staff in bass clef with a key signature of one sharp (F#) and a common time signature (C). It features a series of eighth-note patterns with fingerings (1, 3, 3, 3, 3, 1) and a circled 'F.V.' with the instruction '11° sempre' below it.

9

Exercise 9 is a single staff in bass clef with a key signature of one sharp (F#) and a common time signature (C). It contains eighth-note patterns with fingerings (1, 1, 1, 1, 4, 4, 4, 4, 1, 1, 1, 1) and Roman numerals (IV°, III°, II°, I°) below the staff.

Continuation of exercise 9, showing eighth-note patterns with fingerings (1, 1, 1, 1, 4, 4, 4, 4, 1, 1, 1, 1) and Roman numerals (IV°, III°, II°, I°) below the staff.

Continuation of exercise 9, showing eighth-note patterns with fingerings (1, 1, 1, 1, 4, 4, 4, 4, 1, 1, 1, 1) and Roman numerals (IV°, III°, II°, I°) below the staff.

Continuation of exercise 9, showing eighth-note patterns with fingerings (1, 1, 1, 1, 4, 4, 4, 4, 1, 1, 1, 1) and Roman numerals (IV°, III°, II°, I°) below the staff.

Variations

First variation of exercise 9, showing eighth-note patterns with fingerings (1, 1, 1, 1, 4, 4, 4, 4, 1, 1, 1, 1) and Roman numerals (IV°, III°, II°, I°) below the staff.

Second variation of exercise 9, showing eighth-note patterns with fingerings (1, 1, 1, 1, 4, 4, 4, 4, 1, 1, 1, 1) and Roman numerals (IV°, III°, II°, I°) below the staff.

CELLO PART
for
Eleven Pieces for Cello and Piano
(Book One/Part One)

(These pages may be removed for performance.)

NOCTURNE

Adagio



SOLEMN PRELUDE

Festoso



MELODY

Andante cantabile



DUET

Allegro marcato



MINUET

Tempo di minuetto

mp

mf

tempo

poco rit. *mp*

pizz. *mp*

ROMANCE

Moderato

f

Più mosso

BASSO CONTINUO

Adagio

f

Largo

SUNNY DAY

Andante

Piano

Solo

arco

pizz.

arco

pizz.

A FOLK SONG

Adagio cantabile

Piano

f

f

pizz.

Fine

Piano

Da al Fine

SALTARELLO

Allegro vivo

f *p* *pizz* *Fine* *Da al Fine*

cantabile

THE WIND SCOURING THE FIELDS

Allegro ben ritmico

f *p* *pizz.* *f*

THE COMPLETE CELLIST
(The Matz-Aronson Cello Method)

CONTENTS OF BOOK TWO

PART ONE

*Advanced Left-Hand Dexterity;
Exercises in Percussive Finger Action
(Including "The Geminiani Grips");
And Other Exercises for Strengthening the Fingers
and Making Them Independent*

Percussive Finger Action in Left-
Hand Arpeggios

The "Geminiani Grips"

Exercises in Percussive Finger
Action on Two and Three
Strings in All Positions
and Keys

Exercises for Finger Indepen-
dence with One or More
Fingers at Rest

Double-Stop Exercises for
Memorization of Finger Place-
ment



PART TWO

Further Exercises in Percussive Finger Action

The Sixteen Basic Finger-Changing
Patterns on Two Adjacent Strings
in Close Position
(The Sixteen "Grips")

Suggested Variations on the First
and Second Basic Finger-
Changing Patterns

Further Variations Combining
Similar Patterns on the D
and A Strings

Variations on Each Pattern on
All Four Strings

PART THREE

*Introduction to Thumb Position;
 A Description of Thumb Position;
 Studies in Percussive Action as Preliminaries to Scale Study;
 Preliminary Exercises for Scales;
 Technical Analyses of Scales and Chords,
 and a Systematizing of Major and Minor Scales
 According to the Chromatic Series;
 A Definition and Illustration of Natural and Artificial Harmonics*

Thumb Position

Exercises in which the Sixteen
 Basic Finger-Changing Patterns
 are Shifted Down and Across
 the Fingerboard

Studies in Percussive Action as
 Preliminaries to Scale Study

Movements of Percussion and Move-
 ments of Sliding

Substituting the Thumb for the
 Other Fingers
*(Making the Thumb a Part of
 the Hand)*

Thumb-Position Exercises

Shifting the Thumb Over Neigh-
 boring Strings

Substitution of the Thumb

Preliminary Exercises for Scales
 in Fast-Moving Changes from
 Position to Position

Further Scale and Arpeggio Studies

Harmonics



PART FOUR

Right-Hand Exercises

Bowings

Tonal Aspects of the Six Basic
 Bowings

Stroke Variants

Daily Exercises for the Elastic-
 ity of the Wrist and Forearm

Stroke Weights

Dotted Rhythms

Bowing Exercises with Triplets

Exercises for the Development
 of the Right Hand

Arpeggios on Four Strings